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Voluntary Reporting of Greenhouse Gases 2002

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Energy Information Administration
Office of Integrated Analysis and Forecasting
U.S. Department of Energy
Washington, DC 20585

This publication is on the WEB at:
www.eia.doe.gov/oiaf/1605/vrrpt/index.html.

For More Information

Individuals or members of organizations wishing to report reductions in emissions of greenhouse gases under the auspices of the Voluntary Reporting of Greenhouse Gases Program can contact the Energy Information Administration (EIA) at:

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U.S. Department of Energy
Forrestal Building
EI-81, Room 2F-081
1000 Independence Avenue, SW
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Telephone: 1-800-803-5182 or 202-586-0688
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For reporting purposes, EIA has both a long form (EIA-1605) and a short form (EIA-1605EZ) available, as well as an electronic version of the form. They are available upon request or on EIA's web site at *www.eia.doe.gov/oiaf/1605/forms.html*.

The reports submitted to EIA are compiled into a database that can be obtained on CD-ROM by contacting the Voluntary Reporting of Greenhouse Gases Program Communications Center at 1-800-803-5182 or can be downloaded from EIA's web site at *www.eia.doe.gov/oiaf/1605/database.html*.

General or specific technical information concerning the contents of this report may also be obtained by contacting the Voluntary Reporting of Greenhouse Gases Program.

Preface

Title XVI, Section 1605(b) of the Energy Policy Act of 1992 (EPACT) directed the Energy Information Administration (EIA) to establish a mechanism for "the voluntary collection and reporting of information on . . . annual reductions of greenhouse gas emissions and carbon fixation achieved through any measures, including fuel switching, forest management practices, tree planting, use of renewable energy, manufacture or use of vehicles with reduced greenhouse gas emissions, appliance efficiency, methane recovery, cogeneration, chlorofluorocarbon capture and replacement, and power plant heat rate improvement . . . ."

The legislation further instructed EIA to create forms for the reporting of greenhouse gas emissions and reductions, and to establish a database of the information voluntarily reported under this subsection of EPACT. The reporting Forms EIA-1605 and EIA-1605EZ, "Voluntary Reporting of Greenhouse Gases," were first made available to the public in July 1995, providing a vehicle for voluntary reporting on activities that occurred before and during 1994. This publication summarizes data reported for 2002, the ninth year of data collection for the Voluntary Reporting of Greenhouse Gases Program.

The data reported to the Program are available through several media. All nonconfidential reports received by the Program are compiled into a Public Use Database, available on CD-ROM or by download from the Internet. The software is interactive and modular by design, allowing the user to select, view, or print the reports filed by the voluntary reporters, for each year of their participation. The user can also connect to and query the database with Microsoft Access 97 (or later versions) or other software that supports 32-bit open database connectivity (ODBC).

The Public Use Database and the current reporting software are also available at the Program's FTP (File Transfer Protocol) site on the Internet at *http://www.eia.doe.gov/oiaf/1605/database.html*. Interested parties are encouraged to visit the Program's home page at *http://www.eia.doe.gov/oiaf/1605/frntvrgg.html* for more information and background on the Program. Software, additional copies of this report, paper reporting forms, and technical support information can be downloaded from that web site or obtained from the Voluntary Reporting of Greenhouse Gases Communications Center by e-mail at *infoghg@eia.doe.gov*, toll-free at 1-800-803-5182, or locally at 202-586-0688.

This report was prepared under the guidance of Mary J. Hutzler, Director of EIA's Office of Integrated Analysis and Forecasting, and John Conti, Director of the International, Economic and Greenhouse Gases Division. Significant contributions to the Program, the current software, and the preparation of this report have been made by Paul McArdle, Stephen Calopedis, Matthew Aberant, Nancy Checklick, Kristin Franks, Laura Gehlin, Sarah Goldstein, William LaPerch, Michael Mondshine, Dick Richards, Charles L. Smith, and Peggy Wells.

EIA would like to express special thanks to the voluntary reporters, without whom this program would not be possible.

Contents

Appendixes

Special Topics

Tables

Tables (Continued)

Page

Appendix Tables

Figures

Executive Summary

Introduction

The Voluntary Reporting of Greenhouse Gases Program, required by Section 1605(b) of the Energy Policy Act of 1992, records the results of voluntary measures to reduce, avoid, or sequester greenhouse gas emissions. A total of 228 U.S. companies and other organizations reported to the Energy Information Administration (EIA) that, during 2002, they had undertaken 2,027 projects to reduce or sequester greenhouse gases. The reported greenhouse gas emission reductions for the projects reported included 265 million metric tons carbon dioxide equivalent of direct reductions, 79 million metric tons of indirect reductions, 7 million metric tons of reductions from carbon sequestration, and 17 million metric tons of unspecified reductions (Table ES1).

For definitional purposes, direct reductions are emission reductions from sources owned or leased by the reporting entity, indirect reductions are emission reductions from sources not owned or leased by the reporting entity but that occur as a result of the entity's activities, carbon sequestration reductions represent the removal of atmospheric carbon to a carbon sink, and unspecified reductions represent emission reductions reported on Form EIA-1605EZ, on which the reporting entity cannot specify whether the emission reduction was a direct or indirect reduction. To calculate reported emission reductions, reporters are allowed to use a "basic" reference case or a "modified" reference case. A reference case is an emissions or sequestration level against which actual emissions are compared in order to estimate emission reductions. In a "basic" reference case, actual

Table ES1. Reporting Indicators for the Voluntary Reporting of Greenhouse Gases Program, Data Years 1994-2002

Indicator	1994	1995	1996	1997	1998	1999	2000	2001(R)	2002
Number of Entities Reporting	108	142	150	162	207	207	236	232	228
Number of Projects Reported	634	960	1,040	1,288	1,549	1,722	2,089	1,897	2,027
Number of Entity-Level Reports Received	40	51	56	60	76	83	108	114	114
Project-Level Reductions Reported (Million Metric Tons Carbon Dioxide Equivalent)									
Direct[a]	63	88	90	95	148	155	211	247	265
Modified Reference Case[b]	59	76	75	88	127	126	176	209	256
Basic Reference Case[c]	4	13	15	7	21	29	35	38	8
Indirect[d]	5	52	53	38	43	57	62	72	79
Modified Reference Case[b]	5	52	51	36	38	51	57	61	78
Basic Reference Case[b]	0	1	3	2	5	6	5	11	2
Sequestration[e]	1	1	9	10	12	10	9	8	7
Unspecified[f]	4	6	6	9	19	13	12	15	17

[a]"Direct" emission reductions are reductions in releases of greenhouse gases "on site." For the purpose of completing Form EIA-1605, "on site" is defined as any source owned (wholly or in part) or leased by the reporting entity.

[b]In a "modified reference case," actual emissions (or sequestration) are compared to an estimate of what emissions (or sequestration) would have been in the absence of the project.

[c]In a "basic reference case," actual emissions (or sequestration) are compared with an estimate of historical emissions (or sequestration) in a particular base year or average of years.

[d]"Indirect" emission reductions are reductions in emissions from sources not owned or leased by the reporting entity but that occur, wholly or in part, as a result of the entity's activities (for example, an automobile manufacturer's investment in increased automotive fuel economy can result in decreased emissions from vehicles owned by individuals or managed fleets).

[e]"Sequestration" is the fixation of atmospheric carbon dioxide in a carbon sink through biological or physical processes, such as photosynthesis.

[f]"Unspecified" emission reductions represent quantities reported on the short form (Form EIA-1605EZ), on which the reporting entity cannot specify whether the emission reduction was a direct or indirect reduction.

(R) = revised.

Notes: 2001 data have been revised to include 2001 reports that were submitted after the filing deadline. It is expected that the 2002 data will also be revised in next year's report with the inclusion of late 2002 reports. Totals for direct and indirect reductions may not equal sum of components due to independent rounding.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

historical emissions (or sequestration) in a specific year, or an average of a range of years, are used as the reference case. In a "modified" reference case, an estimate is made of what emissions or sequestration would have been in the absence of the project, and that estimate serves as the reference case.

Generally, as illustrated in Table ES1, most reductions are reported relative to a modified reference case. For 2002, 256 million metric tons, or 97 percent, of the total 265 million metric tons carbon dioxide equivalent of reported direct reductions was based on modified reference cases. Similarly, for reported indirect reductions, 77.5 million metric tons, or 98 percent, of the total 79 million metric tons carbon dioxide equivalent of reported indirect reductions was based on modified reference cases.

The number of entities reporting to the Voluntary Reporting Program for the 2002 reporting cycle (228) is the same as the number that had reported for 2001 when the database was closed in July 2002 for preparation of the 2001 annual report. After the 2001 database was closed in July 2002, EIA received 4 additional reports, bringing the total number of entities reporting for the 2001 data year to 232. As of January 5, 2004, EIA had received 3 additional 2002 reports since the database was closed for preparation of the 2002 annual report.[1]

The number of entities reporting to the program has grown by 111 percent from its inception in 1994, when 108 entities reported. The number of projects reported has grown at a more rapid rate than the number of reporters, because the number of projects reported by repeat reporters has increased. The 2,027 projects reported for 2002 represent an increase of 220 percent over the 634 projects reported in 1994 and a 7-percent increase from the final tally of 1,897 projects reported for 2001.

Of the 228 organizations reporting for 2002, 114 provided estimates of emissions and/or emission reductions for the entire organization—the same as the number that provided entity-wide estimates for 2001. Seventy-nine of the reporters for 2002 recorded commitments to take action to reduce emissions, mostly during the 2000 to 2005 time frame.

Of the 114 organizations reporting at the entity level, 109 calculated their 2002 entity-wide greenhouse gas emissions. These entities reported direct greenhouse gas emissions of 870 million metric tons carbon dioxide equivalent, equal to about 13 percent of total U.S. greenhouse gas emissions in 2002.[2] Also reported by these organizations was 111 million metric tons carbon dioxide equivalent of indirect emissions, equal to 2 percent of total U.S. greenhouse gas emissions in 2002. One hundred eight entity-level reporters also reported emission reductions, including 209 million metric tons carbon dioxide equivalent of direct emission reductions, 36 million metric tons carbon dioxide equivalent of indirect emission reductions, and 7 million metric tons carbon dioxide equivalent of emission reductions resulting from carbon sequestration projects.

Reports for the 2002 data year were received from 228 participants in 29 different industries or services, as compared with the 26 different industries represented among 2001 reporters. The number of different industries represented continues to be higher than it was in the first year of the program (1994 data year), when the 108 reports received included participants in 9 different industries or services (Table ES2). In the early years of the program, reporting was dominated by the electric power sector. In the first reporting year, the 95 submissions from electric power producers represented 88 percent of the 108 reports received (Figure ES1). Since then, the program has seen an influx of new participants from outside the electric power sector, representing a diverse set of other industries. In addition, several mergers and acquisitions involving reporters to the program have accompanied the ongoing restructuring of the electric power industry. Many of these merged entities have submitted single, consolidated reports, thus reducing the number of reports received from electricity producers. As a result, only 43 percent of the organizations reporting to the program for data year 2002 were from the electric power sector.

Although the number of reporters from other individual industries remains relatively small, in many cases, reports were received from key companies in those other industries: for example, DaimlerChrysler Corporation, General Motors, the Ford Motor Company, and Toyota North America in the automotive products industry; Noranda and Alcan's Primary Metals Group in the metals industry; Sunoco, Inc., and ChevronTexaco Corporation in the petroleum industry; Johnson & Johnson and The Dow Chemical Company in the chemicals industry; Rolls Royce in the aerospace industry;

[1]The deadline for submitting reports to EIA for inclusion in each annual edition of the Public Use Database is June 1. EIA typically grants reporters extensions to the deadline, usually until early July, before closing the database to new reports to allow analysis of the information for the annual report. EIA includes reports received after the database has been closed in the next annual edition of the Public Use Database and revises the data for that reporting year in the corresponding annual report, to reflect the addition of late reports.

[2]Based on total emissions from Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), web site www.eia.doe.gov/oiaf/1605/1605a.html.

Table ES2. Forms Filed by Standard Industrial Classification, Data Years 1994-2002
(Number of Reports)

SIC Code[a]	Description	Data Year								
		1994	1995	1996	1997	1998	1999	2000	2001[(R)]	2002
01	Agricultural Production: Crops	—	—	—	—	1	—	—	1	—
08	Forestry	1	2	1	1	3	3	1	—	1
12	Coal Mining	1	2	2	1	4	3	4	6	7
14	Nonmetallic Minerals, Except Fuels	—	—	—	—	1	1	—	—	—
20	Food and Kindred Products	—	—	—	—	1	2	6	4	4
22	Textile Mill Products	—	—	—	—	—	1	5	11	12
23	Apparel and Other Textile Products	—	—	—	—	—	—	1	1	2
24	Lumber and Wood Products	—	—	—	—	—	—	1	1	—
25	Furniture and Fixtures	—	—	—	—	—	—	1	1	1
26	Paper and Allied Products	—	—	—	—	—	1	1	—	—
27	Printing and Publishing	—	1	—	1	—	1	1	—	—
28	Chemical and Allied Products	1	3	2	3	8	5	11	9	10
29	Petroleum Refining and Other Related Industries	—	—	2	3	8	9	8	7	6
30	Rubber and Miscellaneous Plastic Products	—	—	—	—	—	—	2	2	2
32	Stone, Clay, Glass, and Concrete Products	—	—	1	4	12	13	7	5	2
33	Primary Metals Industries	2	2	4	4	5	5	5	11	11
34	Fabricated Metal Products, Except Machinery and Transportation Equipment	—	2	1	1	3	1	1	1	1
35	Industrial and Commercial Equipment and Components	—	—	—	—	—	—	1	1	1
36	Electronic and Other Electrical Equipment	1	1	2	4	4	4	9	9	8
37	Transportation Equipment	1	1	1	2	3	5	6	7	8
38	Instruments and Related Products	—	—	—	—	2	—	1	1	1
39	Miscellaneous Manufacturing Industries	—	1	1	—	2	2	1	1	1
48	Communications	—	—	—	—	—	1	—	—	1
49	Electric, Gas, and Sanitary Services	95	121	125	129	138	135	151	145	138
51	Wholesale Trade, Nondurable Goods	—	—	—	—	—	—	—	—	1
57	Furniture and Home Furnishings Stores	—	—	—	—	2	1	1	—	1
65	Real Estate	—	1	1	1	1	1	1	1	1
67	Holding and Other Investment Offices	—	—	1	1	1	1	1	1	1
72	Personal Services	—	—	—	—	—	—	1	1	1
80	Health Services	—	—	—	—	1	—	—	—	—
82	Educational Services	1	2	2	2	—	2	—	—	—
86	Membership Organizations	—	—	—	1	1	1	1	—	1
87	Engineering and Management Services	—	—	2	2	2	1	—	1	—
88	Private Households	2	1	1	1	1	1	1	1	1
89	Services Not Elsewhere Classified	—	—	—	1	1	3	2	1	1
91	Executive, Legislative, and General	—	—	—	—	1	2	2	2	1
97	National Security and International Affairs	—	—	—	—	—	—	1	—	—
99	Nonclassifiable Establishments	—	—	—	—	—	—	—	—	1
Total Number of Reporters[b]		**108**	**142**	**150**	**162**	**207**	**207**	**236**	**232[c]**	**228**
Number of 2-Digit SIC Codes Represented		**9**	**13**	**16**	**18**	**24**	**26**	**30**	**26[c]**	**29**

[a]The Voluntary Reporting of Greenhouse Gases database was designed in 1994-1995, when the Standard Industrial Classification (SIC) system was still in use. For the 2004 data year reporting cycle, EIA intends to modify the database to use the North American Industry Classification System (NAICS), which was introduced in 1997 by the United States, Canada, and Mexico to provide comparability in statistics about business activity across North America.

[b]Totals may be greater than the sum of reporters in each SIC code, because confidential reporters are excluded from the latter.

[c]Includes 4 late reports for the 2001 data year. The 2002 total will also be revised in next year's report with the inclusion of late 2002 reports. As of January 27, 2004, EIA had received 3 late 2002 reports, which are not included in this report's 2002 database.

(R) = Revised.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

Pharmacia & Upjohn Caribe, Inc., in the pharmaceuticals industry; and IBM and Motorola Austin in the electronic equipment industry.[3]

Projects Reported

Electric power sector reporters (including independent power producers) accounted for 1,414 (70 percent) of the projects reported. Also reporting were industrial concerns (161 projects), agriculture and forestry organizations (5 projects), and alternative energy providers (436 projects). Organizations in other sectors (government, commercial, and residential) submitted reports on 11 projects.

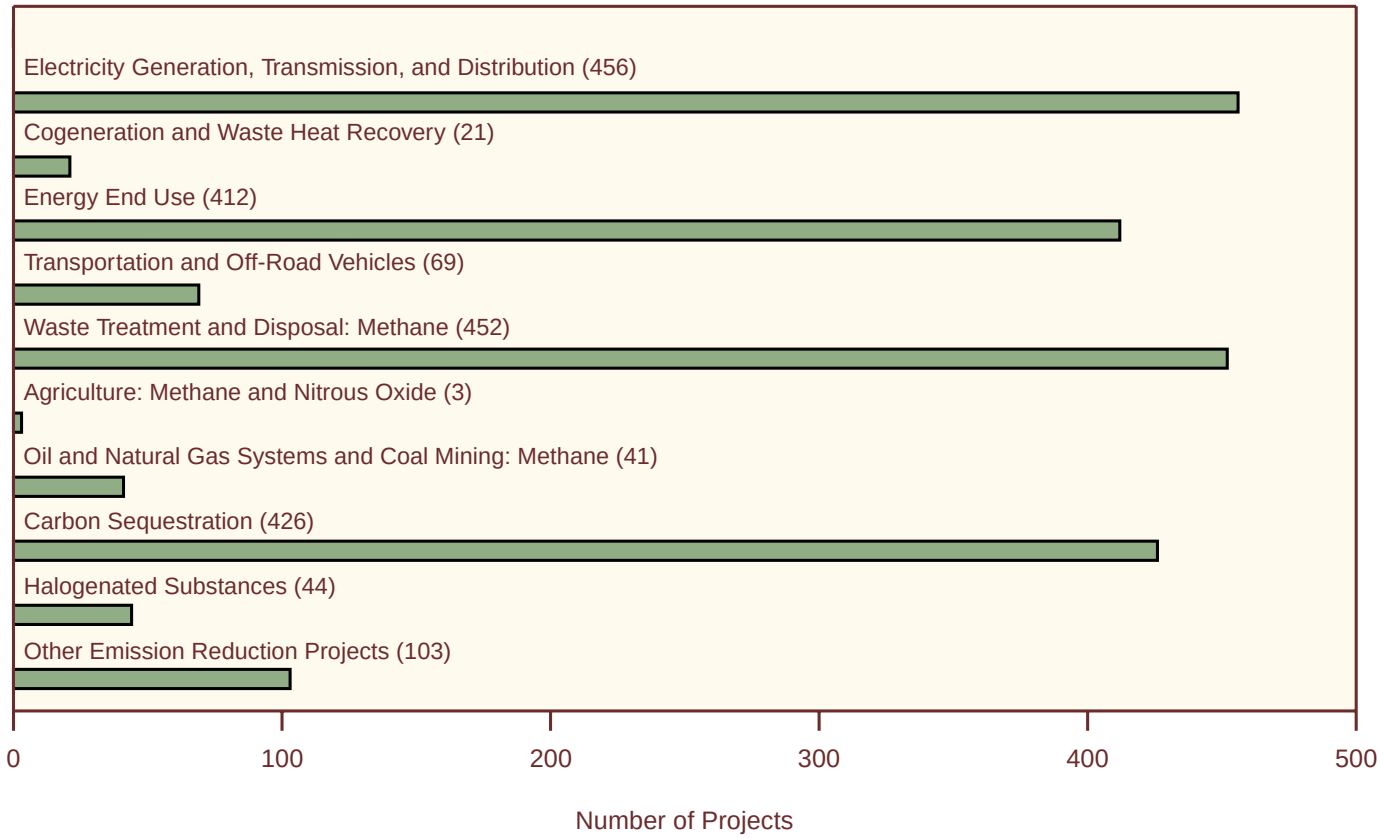
Most of the projects reported for 2002 affected energy supply or use. Some 456 of the projects were related to the generation, transmission, or distribution of electricity, almost all of which were reported by electric power sector reporters (Figure ES1). Another 412 were related to energy end use, 21 were cogeneration projects, and 69 were transportation projects. Other projects reduced emissions of methane from waste treatment and disposal facilities (452 projects), agriculture (3 projects), and from oil and natural gas systems and coal mines (41 projects), many of which included the displacement of fossil fuels through the use of methane as a fuel. Other projects (103) included the reuse of fly ash in concrete and materials recycling , which reduce emissions in part by reducing energy consumption. The largest reductions were reported for projects that improved the performance of nuclear power plants. The non-energy-related projects reported fell into two major categories: sequestration of carbon, usually in forests (426 projects), and recycling, reuse, or destruction of halogenated substances, such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (44 projects).

Reductions Reported

Electric Power

For 2002, 418 electric power and cogeneration projects were reported on Form EIA-1605. Total emission

Figure ES1. Number of Projects Reported to the Voluntary Reporting of Greenhouse Gases Program by Project Type, Data Year 2002



Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

[3]A complete listing of all 2002 reporters is provided in Appendix B, Table B1, of the full report, *Voluntary Reporting of Greenhouse Gases 2002*, which is available from web site www.eia.doe.gov/oiaf/1605/vrrpt/index.html. Table B8 in Appendix B lists reporters by sector and standard industrial classification (SIC) code.

reductions from electric power and cogeneration projects reported on the long form included 163 million metric tons carbon dioxide equivalent from direct sources and 15 million metric tons from indirect sources. Two hundred thirty projects that reduced the carbon content of fuels used to generate electricity were reported, with emission reductions totaling 152 million metric tons carbon dioxide equivalent from direct sources and 11 million metric tons from indirect sources. Reported emission reductions for projects increasing energy efficiency in generation, transmission, and distribution included 16 million metric tons carbon dioxide equivalent from direct sources and 4 million metric tons from indirect sources. Fifty-nine electric power and cogeneration projects were reported on Form EIA-1605EZ for 2002. These projects reduced emissions from unspecified sources by a reported 12 million metric tons carbon dioxide equivalent.[4]

Energy End Use and Transportation

Three hundred seventy-five energy end use and transportation projects were reported on Form EIA-1605 for 2002. Reported reductions for the 315 energy end-use projects reported on the long form included 25 million metric tons carbon dioxide equivalent from direct sources and 9 million metric tons from indirect sources. Nearly all (97 percent) of the energy end-use reductions were reported for stationary-source applications, such as building shell improvements, lighting and lighting control, appliance improvement or replacement, and heating, ventilation and air conditioning (HVAC) improvements. Much smaller reductions were reported for the 60 transportation projects reported on the long form, including 42 thousand metric tons carbon dioxide equivalent from direct sources and 161 thousand metric tons from indirect sources. One hundred six energy end-use and transportation projects were reported for 2002 on Form EIA-1605EZ, accounting for about 0.4 million metric tons carbon dioxide equivalent.

Carbon Sequestration

Sequestration or avoided emissions of 7 million metric tons carbon dioxide equivalent were reported for 412 carbon sequestration projects on the long form for 2002. Most of the reported reductions resulted from afforestation, reforestation, urban forestry, forest management, and forest preservation efforts. Fourteen carbon sequestration projects were reported on Form EIA-1605EZ, for which about 11,000 metric tons carbon dioxide equivalent of sequestered carbon was reported for 2002.

Methane and Nitrous Oxide Emissions

In 2002, emission reductions for the 445 methane and nitrous oxide abatement projects reported on the long form included 67 million tons carbon dioxide equivalent from direct sources and 40 million metric tons from indirect sources. The three most frequently reported sources of methane reductions were municipal waste landfills (390 projects), natural gas systems (21 projects), and coal mines (18 projects). In addition to reducing methane emissions, projects that involved the recovery and use of methane for energy also reduced carbon dioxide emissions by displacing fossil fuels, such as oil and coal that have higher carbon contents and thus produce more carbon dioxide when burned. Fifty-one methane or nitrous oxide reduction projects were also reported on Form EIA-1605EZ for 2002. These projects reduced methane or nitrous oxide emissions in 2002 by a reported 4 million metric tons carbon dioxide equivalent.

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

Reductions reported on Form EIA-1605 for 42 projects reducing emissions of hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride in 2002 included 6.6 million metric tons carbon dioxide equivalent from direct sources and 127 metric tons from indirect sources. The largest reported reductions were direct reductions in perfluoromethane (3.0 million metric tons carbon dioxide equivalent), sulfur hexafluoride (3.0 million metric tons carbon dioxide equivalent), and perfluoroethane (0.5 million metric tons carbon dioxide equivalent). Reductions of perfluorocarbons and sulfur hexafluoride totaling 0.1 million metric tons carbon dioxide equivalent were reported for two projects on Form EIA-1605EZ for 2002.

[4]The emission reductions reported on Form EIA-1605EZ are unspecified, because the form does not ask the reporter to distinguish between direct and indirect emission reductions.

1. Voluntary Reporting 2002: An Overview

Introduction

The Energy Policy Act of 1992 (EPACT) directed the U.S. Department of Energy (DOE), with the Energy Information Administration (EIA) as the implementing agency, to develop a program to document voluntary actions that reduce emissions of greenhouse gases or remove greenhouse gases from the atmosphere (see box on page 2).[1] The Guidelines to the Voluntary Reporting of Greenhouse Gases Program were developed in 1994 by DOE's Office of Policy and International Affairs, in consultation with the U.S. Environmental Protection Agency (EPA) and other Federal agencies, as well as through a public comment process. In addition to providing recognition for entities that reduce greenhouse gas emissions or sequester carbon voluntarily, the program serves to identify innovative and effective ways of reducing emissions.

This report presents information on the ninth reporting cycle of the Voluntary Reporting Program, including reported information on emissions, emission reductions, and carbon sequestration activities through 2002. The report is divided into eight chapters. This chapter provides an overview of participation in the Voluntary Reporting Program, a perspective on the composition of activities reported, and a review of some key issues in interpreting and evaluating achievements associated with reported emission mitigation initiatives. Chapters 2 through 6 provide a more detailed review of project-level emission reduction initiatives reported to the program. Chapter 2 examines projects in the electricity sector that reduce carbon dioxide emissions through thermal efficiency improvements or switching to lower emitting fossil fuels. Chapter 3 considers improvements in end-use efficiency and fuel switching in the residential, commercial, industrial, and transportation sectors.

Activities to improve or expand carbon sinks through such activities as reforestation, afforestation, and forest preservation are the subject of Chapter 4. Emission reduction initiatives associated with methane and halogenated substances are examined in Chapters 5 and 6, respectively. Chapter 7 reviews emissions reports from participants who provided data on aggregate entity emissions. Chapter 8 summarizes information on emission reductions and carbon sequestration projects reported in brief on the short form (Form EIA-1605EZ). Appendixes (available on web site *http://www.eia.doe.gov/oiaf/1605/vrrpt/index.html*) provide information on the development and structure of the data collection instrument, a discussion of issues in the interpretation of the data, and tabular summaries of the participating reporters and the information they reported.

The reports submitted to EIA are compiled into a database that can be obtained on CD-ROM by contacting the Voluntary Reporting of Greenhouse Gases Program Communications Center at 1-800-803-5182 or downloaded from EIA's web site at *http://www.eia.doe.gov/oiaf/1605/database.html*.

Benefits of the Voluntary Reporting Program

The Voluntary Reporting Program is unique among the many voluntary programs initiated during the early 1990s in its diversity of project types, participation, and approaches. The Voluntary Reporting Program's database provides abundant examples of the types of concrete actions that organizations can undertake to reduce greenhouse gas emissions. Some of the most important benefits of the Voluntary Reporting Program are:[2]

- The program has served to teach staff at many of the largest corporations in the United States how to estimate greenhouse gas emissions and has educated them on a range of possible measures to limit emissions.
- The program has helped to provide concrete evidence for the evaluation of activities reported to the many government voluntary programs launched since 1993.

[1]Title XVI of the Energy Policy Act, Public Law 102-486 (October 24, 1992), in Section 1605(a) called for an annual report on national aggregate emissions of greenhouse gases. EIA has issued the report—*Emissions of Greenhouse Gases in the United States*—every year since 1993. Section 1605(b) called for the establishment of a database of annual emissions and reductions of emissions reported on a voluntary basis.

[2]Testimony of Jay Hakes, former EIA Administrator, on March 30, 2000, before the Senate Committee on Energy and Natural Resources on Senate Bills S. 882 and S. 1776 and their potential impacts on EIA's Programs. The full text of the testimony is available on EIA's web site at www.eia.doe.gov/neic/speeches/hrtest3-30-00/testimony3.htm.

- Reporters have been able to learn about innovative emission reduction activities from the experiences of their peers.
- The program has created a "test" database of approaches to emission reductions that can be used to evaluate future policy instruments aimed at limiting emissions.
- The program has helped to illuminate many of the poorly appreciated emissions accounting issues that must be addressed in designing any future approaches to emission limitations.

Who Reported?

Reports for the 2002 data year were received from 228 participants in 29 different industries or services (defined by the two-digit Standard Industrial Classification code), an increase from the 26 different industries represented among 2001 reporters. In comparison, reports for the 1994 data year—the first year of the program—were received from 108 participants in 9 different industries or services (Table 1).

In the early years of the program, reporting was dominated by the electric power sector. In the first reporting

The Energy Policy Act of 1992, Sections 1605(b) and (c)

(b) Voluntary Reporting.—

(1) ISSUANCE OF GUIDELINES.—Not later than 18 months after the date of the enactment of this Act, the Secretary shall, after opportunity for public comment, issue guidelines for the voluntary collection and reporting of information on sources of greenhouse gases. Such guidelines shall establish procedures for the accurate voluntary reporting of information on—

(A) greenhouse gas emissions—

(i) for the baseline period of 1987 through 1990; and

(ii) for subsequent calendar years on an annual basis;

(B) annual reductions of greenhouse gas emissions and carbon fixation achieved through any measures, including fuel switching, forest management practices, tree planting, use of renewable energy, manufacture or use of vehicles with reduced greenhouse gas emissions, appliance efficiency, methane recovery, cogeneration, chlorofluorocarbon capture and replacement, and power plant heat rate improvement;

(C) reductions in greenhouse gas emissions achieved as a result of—

(i) voluntary reductions;

(ii) plant or facility closings; and

(iii) State or Federal requirements; and

(D) an aggregate calculation of greenhouse gas emissions by each reporting entity.

Such guidelines shall also establish procedures for taking into account the differential radiative activity and atmospheric lifetimes of each greenhouse gas.

(2) REPORTING PROCEDURES.—The Administrator of the Energy Information Administration shall develop forms for voluntary reporting under the guidelines established under paragraph (1), and shall make such forms available to entities wishing to report such information. Persons reporting under this subsection shall certify the accuracy of the information reported.

(3) CONFIDENTIALITY.—Trade secret and commercial or financial information that is privileged or confidential shall be protected as provided in section 552(b)(4) of title 5, United States Code.

(4) ESTABLISHMENT OF DATA BASE.—Not later than 18 months after the date of the enactment of this Act, the Secretary through the Administrator of the Energy Information Administration shall establish a data base comprised of information voluntarily reported under this subsection. Such information may be used by the reporting entity to demonstrate achieved reductions of greenhouse gases.

(c) Consultation.—

In carrying out this section, the Secretary shall consult, as appropriate, with the Administrator of the Environmental Protection Agency.

year (data year 1994), the 95 submissions from electric power producers represented 88 percent of the 108 reports received (Figure 1). Since then, the program has seen an influx of new participants from outside the electric power sector, representing a diverse set of other industries. In addition, the ongoing restructuring of the electric power industry has been accompanied by several mergers and acquisitions involving reporters to the program, reducing the number of reports received from electricity producers. As a result, only 43 percent of the organizations reporting to the program for data year 2002 were from the electric power sector.

Although the number of reporters from other individual industries remained relatively small, in many cases, reports were received from key companies in those

Table 1. Forms Filed by Standard Industrial Classification, Data Years 1994-2002
(Number of Reports)

SIC Code[a]	Description	Data Year								
		1994	1995	1996	1997	1998	1999	2000	2001[(R)]	2002
01	Agricultural Production: Crops	0	0	0	0	1	0	0	1	0
08	Forestry	1	2	1	1	3	3	1	0	1
12	Coal Mining	1	2	2	1	4	3	4	6	7
14	Nonmetallic Minerals, Except Fuels	0	0	0	0	1	1	0	0	0
20	Food and Kindred Products	0	0	0	0	1	2	6	4	4
22	Textile Mill Products	0	0	0	0	0	1	5	11	12
23	Apparel and Other Textile Products	0	0	0	0	0	0	1	1	2
24	Lumber and Wood Products	0	0	0	0	0	0	1	1	0
25	Furniture and Fixtures	0	0	0	0	0	0	1	1	1
26	Paper and Allied Products	0	0	0	0	0	1	1	0	0
27	Printing and Publishing	0	1	0	1	0	1	1	0	0
28	Chemicals and Allied Products	1	3	2	3	8	5	11	9	10
29	Petroleum Refining and Other Related Industries	0	0	2	3	8	9	8	7	6
30	Rubber and Miscellaneous Plastic Products	0	0	0	0	0	0	2	2	2
32	Stone, Clay, Glass, and Concrete Products	0	0	1	4	12	13	7	5	2
33	Primary Metals Industries	2	2	4	4	5	5	5	11	11
34	Fabricated Metal Products, Except Machinery and Transportation Equipment	0	2	1	1	3	1	1	1	1
35	Industrial and Commercial Equipment and Components	0	0	0	0	0	0	1	1	1
36	Electronic and Other Electrical Equipment	1	1	2	4	4	4	9	9	8
37	Transportation Equipment	1	1	1	2	3	5	6	7	8
38	Instruments and Related Products	0	0	0	0	2	0	1	1	1
39	Miscellaneous Manufacturing Industries	0	1	1	0	2	2	1	1	1
48	Communications	0	0	0	0	0	1	0	0	1
49	Electric, Gas, and Sanitary Services	95	121	125	129	138	135	151	145	138
51	Wholesale Trade: Nondurable Goods	0	0	0	0	0	0	0	0	1
57	Furniture and Home Furnishings Stores	0	0	0	0	2	1	1	0	1
65	Real Estate	0	1	1	1	1	1	1	1	1
67	Holding and Other Investment Offices	0	0	1	1	1	1	1	1	1
72	Personal Services	0	0	0	0	0	0	1	1	1
80	Health Services	0	0	0	0	1	0	0	0	0
82	Educational Services	1	2	2	2	0	2	0	0	0
86	Membership Organizations	0	0	0	1	1	1	1	0	1
87	Engineering and Management Services	0	0	2	2	2	1	0	1	0
88	Private Households	2	1	1	1	1	1	1	1	1
89	Services Not Elsewhere Classified	0	0	0	1	1	3	2	1	1
91	Executive, Legislative, and General	0	0	0	0	1	2	2	2	1
97	National Security and International Affairs	0	0	0	0	0	0	1	0	0
99	Nonclassifiable Establishments	0	0	0	0	0	0	0	0	1
Total Number of Reporters[b]		**108**	**142**	**150**	**162**	**207**	**207**	**236**	**232[c]**	**228[c]**
Number of 2-Digit SIC Codes Represented		**9**	**13**	**16**	**18**	**24**	**26**	**30**	**26[c]**	**29[c]**

[a]The Voluntary Reporting of Greenhouse Gases database was designed in 1994-1995, when the Standard Industrial Classification (SIC) system was still in use. For the 2004 data year reporting cycle, EIA intends to modify the database to use the North American Industry Classification System (NAICS), which was introduced in 1997 by the United States, Canada, and Mexico to provide comparability in statistics about business activity across North America.

[b]Totals may be greater than the sum of reporters in each SIC code, because confidential reporters are excluded from the latter.

[c]Includes 4 late reports for the 2001 data year. The 2002 total will also be revised upward in next year's report with the inclusion of late 2002 reports. As of January 27, 2004, EIA had received 3 late 2002 reports, which are not included in this report's 2002 database.

(R) = Revised.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

other industries: for example, General Motors and Ford Motor Company in the automotive products industry; Noranda and an operating division of Alcan in the metals industry; BP, Sunoco, Inc., and ChevronTexaco Corporation in the petroleum industry; Johnson & Johnson and The Dow Chemical Company in the chemicals industry; Rolls Royce in the aerospace industry; Pharmacia & Upjohn Caribe, Inc., in the pharmaceuticals industry; and IBM and Motorola Austin in the electronic equipment industry. A complete listing of all 2002 reporters is provided in Appendix B, Table B1.[3]

Most reporters indicated that their projects were affiliated with one or more government-sponsored voluntary programs. Of the 2,029 projects reported for 2002, 1,045 were affiliated with the Climate Challenge Program, 360 with the Landfill Methane Outreach Program, 85 with various Energy STAR programs (including Energy STAR Buildings, Energy STAR Computers, and Energy STAR Transformers), 14 with the Climate Wise Recognition Program, 38 with the U.S. Initiative on Joint Implementation, 19 with the Natural Gas STAR Program, 17 with the Green Lights Program, 9 with the Sulfur Hexafluoride Emissions Reduction Partnership, 9 with the Coalbed Methane Outreach Program, 9 with WasteWise, and 7 with Compressed Air Challenge. Other voluntary programs cited included the Voluntary Aluminum Industrial Partnership, Motor Challenge, Rebuild America, Cool Communities Program, and DOE's Partnership for Technology Introduction. Not all participants in the various voluntary programs provided information to the Voluntary Reporting Program.

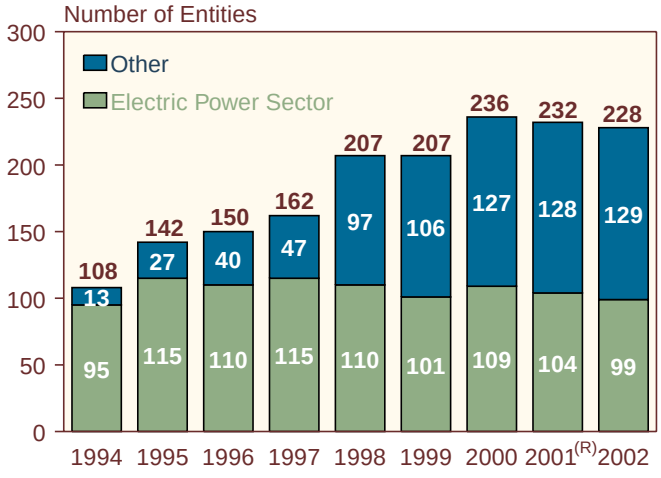
What Was Reported?

The Voluntary Reporting Program permits three distinct types of reporting:

- Project-level emissions and reductions, defined as the emission reduction consequences of a particular action
- Entity-level emissions and reductions, defined as the emissions and reductions of an entire organization, usually defined as a corporation
- Commitments to take action to reduce emissions in the future.

Of the 228 reports received, 193 (85 percent) were submitted on Form EIA-1605 (Figure 2). The remainder were submitted on Form EIA-1605EZ (the short form), which permits reporting on project-level reductions and sequestration only. The proportion of reporters using the short form has declined from 32 percent in the first year of the program (1994 data year) to 15 percent in the 2002 data reporting cycle. EIA believes that reporters are choosing the long form in order to document their emission reductions more thoroughly. Also, for the same

Figure 1. Electric Power Sector and Other Entities Submitting Reports to the Voluntary Reporting of Greenhouse Gases Program, Data Years 1994-2002

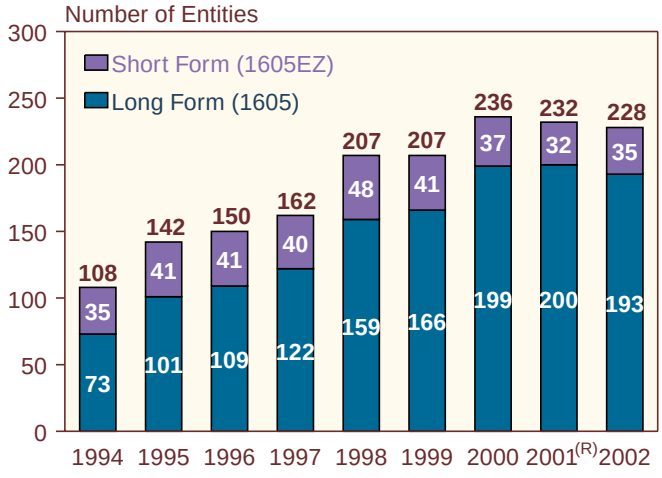


(R) = revised.

Notes: Electric power sector includes electric utilities and independent power producers. 2001 data year includes 4 late reports that were not included in the totals presented in last year's annual report and database.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

Figure 2. Number of Reports Received by Form Type, Data Years 1994-2002



(R) = revised.

Notes: Electric power sector includes electric utilities and independent power producers. 2001 data year includes 4 late reports that were not included in the totals presented in last year's annual report and database.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

[3]Appendixes for this report are available from web site www.eia.doe.gov/oiaf/1605/vrrpt/index.html.

reason, several voluntary programs (such as the Landfill Methane Outreach Program) require or encourage participants to use the long form.

Most reporters (172 or 76 percent) reported project-level reductions, and 114 reported entity-level emissions and/or reductions. Most (59) of the reporters that reported entity-level emissions or reductions also reported at the project level. One hundred twelve organizations submitted only project-level reports, whereas 55 reported only entity-level information. Seventy-nine reporters provided information on their commitments to reduce emissions or increase sequestration in the future, including one that reported only commitments.

Sources of greenhouse gas emissions and emission reductions reported to the Voluntary Reporting Program are characterized as direct, indirect, or unspecified. The unspecified category includes carbon sequestration reported on the long form and all reductions and sequestration reported on the short form. Because of concern about possible double counting (see box on page 6), EIA does not aggregate reported emissions or emission reductions across the three categories.

Project Level

Reporters provided information on a total of 2,027 projects for 2002 (Table 2). Most of these projects (1,774 or 88 percent) were reported on the long form. The total number of projects reported increased by 130, or 7 percent, compared with the previous reporting cycle.[4] Most of the 2,027 projects reported for 2002 were also among the 1,897 projects reported for 2001, because they continued to yield emission reductions. Projects often yield emission reductions over an extended period of time; for example, an availability improvement project at a nuclear power plant typically involves the adoption of new maintenance and refueling programs that, once in place, are followed over a multi-year period. A project may even involve no new activity. The reforestation of an area in one year can result in the sequestration of carbon in many subsequent years, even if no additional trees are planted. Reporters continue to report the annual emission reductions and carbon sequestration achieved by such long-lived projects on a yearly basis.

Most projects involve actions within the United States; however, some are conducted in foreign countries, designed to test various concepts of joint implementation with other nations (Table 3). Sixty of the 94 foreign projects reported for 2002 represent shares in two forestry programs in Belize and Malaysia sponsored by the electric utility industry.

The principal objective of the majority of projects reported for 2002 was to reduce carbon dioxide emissions (Table 2). Most of these projects reduced carbon dioxide either by reducing fossil fuel consumption or by switching to lower emitting sources of energy. Many also achieved small reductions in emissions of other

Table 2. Distribution of Projects by Reduction Objective, Project Type, and Form Type, Data Year 2002

Reduction Objective and Project Type	Number of Projects			Number of Reporters		
	Long Form	Short Form	Total	Long Form	Short Form	Total
Reducing Carbon Dioxide Emissions	**793**	**165**	**958**	**171**	**51**	**222**
Electricity Generation, Transmission, and Distribution	398	58	456	65	25	90
Cogeneration and Waste Heat Recovery	20	1	21	12	1	13
Energy End Use	315	97	412	62	20	82
Transportation and Offroad Vehicles	60	9	69	32	5	37
Reducing Methane and Nitrous Oxide Emissions	**246**	**51**	**297**	**75**	**7**	**82**
Waste Treatment and Disposal (Methane)	403	49	452	52	5	57
Agriculture (Methane and Nitrous Oxide)	3	0	3	3	0	3
Oil and Natural Gas Systems and Coal Mining (Methane)	39	2	41	20	2	22
Carbon Sequestration	**412**	**14**	**426**	**50**	**11**	**61**
Halogenated Substances	**42**	**2**	**44**	**29**	**2**	**31**
Other Emission Reduction Projects	**82**	**21**	**103**	**46**	**10**	**56**
Entity-Level Reporting Only (No Projects)	**NA**	**NA**	**NA**	**55**	**NA**	**55**
Commitment Reporting Only (No Projects or Entity-Level Data)	**NA**	**NA**	**NA**	**1**	**NA**	**1**
Total	**1,774**	**253**	**2,027**	**193**	**35**	**228**

NA = not applicable.

Notes: The total number of reporters is smaller than the sum of the number of reporters for each project type, because most reporters provided information on more than one project. Table excludes projects submitted in confidential reports.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

[4]The total number of projects reported for 2001 has increased from 1,705 to 1,897 due to the receipt of 4 additional reports after the time the database used to prepare the annual report and Public Use Database for 2001 was finalized. See note to Table 3.

Double Reporting of Emission Reductions

Double reporting of emission reductions to the Voluntary Reporting of Greenhouse Gases Program can occur, because the ownership rights for such reductions may be claimed by more than one party. For example, both the manufacturers and owners of more efficient automobiles can claim emission reductions resulting from the operation of those vehicles (see page 19, "Who Owns the Reduction?"). Because the purpose of the Voluntary Reporting Program is to encourage reporting, EIA does not prohibit double reporting; however, EIA does endeavor to identify instances where double reporting may occur.

Reporters are required to distinguish between direct and indirect emissions and emission reductions on Form EIA-1605. Direct emissions are releases of greenhouse gases from sources owned (wholly or in part) or leased by the reporting entity. Indirect emissions are emissions from sources not owned or leased by the reporter that occur as a result of the reporter's activities. The most important indirect emissions are those associated with the consumption of electricity purchased from an electricity generator. Because the distinction between direct and indirect is unambiguous, direct emission reductions reported to the Program should include no double reporting.

The reporting forms do not currently allow the reporter to indicate whether carbon sequestered through forestry projects is direct (occurring on land owned by the reporter) or indirect (occurring on land owned by others). Also, Form EIA-1605EZ does not distinguish between direct and indirect reductions. EIA intends to address these issues in future modifications of its reporting forms. To put this issue in perspective, of total project-level emission reductions for 2002, 72 percent (265 million metric tons carbon dioxide equivalent) are reported as direct emission reductions, 22 percent (79 million metric tons carbon dioxide equivalent) are reported as indirect emission reductions, and 7 percent (25 million metric tons carbon dioxide equivalent) are unspecified, reported as sequestration on the long form or as reductions or sequestration on the short form.

A second mechanism to identify possible double reporting is to require reporters using the long form to identify any other entity or entities that participate in a project reported to the Program. This captures situations where more than one entity is responsible for creating the emission reduction, such as landfill gas projects where the landfill owner, the owner of the power plant that uses the landfill gas, and the purchaser of the resulting power all can, and often do, report all the effects of the project. In the case of the landfill operator, for example, the methane captured at the landfill would be reported as a direct emission reduction, and the possible reduction in central-station fossil fuel power generation would be reported as an indirect emission. In contrast, the operator of the power plant could claim the emission reduction at the power plant as a direct reduction and the reduction in methane emissions at the landfill as an indirect reduction. In general, EIA believes that instances of double reporting of direct emissions are very rare if not nonexistent; however, double counting can be an issue for indirect reductions, because their ownership is not as unambiguous.

Because of the concern that double reporting could result in double counting of emission reductions, EIA has discontinued reporting the direct, indirect, and unspecified reductions reported to the Program, in order to avoid giving the impression that the totals represent the cumulative effects of U.S.-sponsored projects on worldwide emissions of greenhouse gases. Emissions, emission reductions, and sequestration are disaggregated into the following categories: direct, indirect, and unspecified reductions and sequestration. Unspecified reductions and sequestration include sequestration reported on Form EIA-1605 and reductions and sequestration reported on Form EIA-1605EZ. As in the past, EIA does not combine reductions reported at the project level with those reported at the entity level, because the reported reductions represent the results of different approaches to estimating changes in greenhouse gas emissions.

EIA does not verify greenhouse gas emission reductions reported by participants, nor does it grant a property right associated with the claimed reductions. EIA does, however, conduct a four-step desk review to see that the data submissions are comprehensive, arithmetically accurate, internally consistent, plausible, and consistent with Program guidelines. The four steps of the desk review are (1) an analyst's review, (2) electronic edit checks incorporated into the reporting software to screen for errors, (3) manual checks of the methodologies employed, and (4) followup with reporters as needed to clarify any other issues. The Program requires the participants themselves to certify that the information reported is accurate to the best of their knowledge and belief; thus, the reporters are ultimately responsible for the accuracy of the reports submitted to the Voluntary Reporting Program.

gases. A total of 958 projects involved either efficiency improvements and switching to lower emitting energy sources in the electric power industry or energy end use measures affecting stationary or mobile combustion sources. Projects that also primarily reduced carbon dioxide emissions included the 103 "other" emission reduction projects, most of which involved either the reuse of fly ash as a cement substitute in concrete or the recycling of waste materials.

Projects that primarily affected carbon dioxide emissions accounted for reported direct reductions of 192 million metric tons carbon dioxide equivalent, representing 72 percent of the total direct reductions reported for 2002 on a carbon dioxide equivalent basis (Table 4). In addition, indirect reductions totaling 39 million metric tons carbon dioxide equivalent were also reported for the projects that reduced carbon dioxide emissions. A further 13 million metric tons carbon dioxide equivalent of unspecified reductions were reported on the short form, where the reporter is not asked to specify whether reductions or sequestration are direct or indirect.

Almost all of the 426 carbon sequestration projects reported on either the long form or the short form increased the amount of carbon stored in sinks through various forestry measures, including afforestation, reforestation, urban forestry, forest preservation, and modified forest management techniques. These activities accounted for 21 percent of the projects reported for 2002; however, 252 of the reported carbon sequestration projects represented shares in 9 projects conducted by the UtiliTree Carbon Company reported by 28 participating electric utilities. The sequestration reported for carbon sequestration projects for 2002 totaled 7 million metric tons of carbon dioxide on the long form and 10,722 metric tons of carbon dioxide on the short form. Direct emission reductions totaling 1,875 metric tons of carbon dioxide were also reported for a few projects where changes in forest management practices reduced fuel consumption.

A variety of efforts to reduce emissions of gases with high global warming potentials (GWPs) were also reported (see box on page 8). Two hundred ninety-seven of the reported projects (15 percent) reduced methane and nitrous oxide emissions from waste management systems, animal husbandry operations, oil and gas systems, or coal mines. The 76 million metric tons carbon dioxide equivalent of direct methane reductions reported were offset by reported increases in carbon dioxide and nitrous oxide emissions totaling 10 million metric tons carbon dioxide equivalent. The carbon dioxide equivalent of the net reduction in direct emissions for projects that reduced methane and nitrous oxide emissions was 67 million metric tons, which represents 25 percent of the total direct reductions reported for 2002. Indirect reductions reported for projects that reduced methane and nitrous oxide emissions totaled 40 million metric tons carbon dioxide equivalent, and unspecified reductions and sequestration reported on the short form contributed emission reductions equal to another 4 million metric tons carbon dioxide equivalent.

Forty-four projects reduced emissions of halogenated substances, including perfluorocarbons (PFCs) and

Table 3. Geographic Scope of Reports Received and Location of Emission Reduction Projects, Data Years 1994-2002

	Reports Received					Projects Reported[b]			
	U.S. Only					U.S. Only			
Year	Long Form	Short Form	Foreign Only	Both U.S. and Foreign	Total[a]	Long Form	Short Form	Foreign Only	Total[a]
1994	65	34	2	4	**108**	500	125	9	**634**
1995	82	40	2	16	**142**	760	164	36	**960**
1996	83	41	1	24	**150**	828	179	33	**1,040**
1997	90	40	1	31	**162**	1,017	201	70	**1,288**
1998	118	47	1	40	**207**	1,212	252	85	**1,549**
1999	125	39	4	37	**207**	1,397	237	87	**1,721**
2000	153	36	1	45	**236**	1,761	229	99	**2,089**
2001(R) . . .	155	32	1	43	**232**	1,596	210	91	**1,897**
2002	150	35	3	39	**228**	1,680	253	94	**2,027**

[a]Totals are greater than the sum of the components because the latter exclude information from confidential reports.
[b]Excludes projects submitted in confidential reports.
(R) = revised.
Notes: The number of reports received for 2001 was revised to reflect the receipt of 4 reports after the finalization of the Public Use Database for last year's annual report. For 2001, additional reports were received from Agilent Technologies, DaimlerChrysler Corporation, New York Power Authority, and Waste Management Inc. The number of projects reported for 2001 has also been revised to reflect the projects included in those reports.
Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

sulfur hexafluoride (SF_6). Unlike the years before 2001, no offsetting increases in emissions of hydrofluorocarbons (HFCs)—which are used as substitutes for chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) being phased out under the Montreal Protocol—were reported for 2002. Direct reductions of PFC and SF_6 emissions totaled 7 million metric tons carbon dioxide equivalent, representing almost all the PFC and SF_6 emission reductions reported for 2002. Reductions of other gases, including carbon monoxide (CO), nonmethane volatile organic compounds (NMVOCs), CFCs, and HCFCs, were reported, but these gases do not have reliable GWPs and are not included in the carbon dioxide equivalent data presented in this report (see box below).

Direct emission reductions reported for 2002 increased by 7 percent over the reductions reported for 2001, to 265 million metric tons carbon dioxide equivalent (Table 5), and have quadrupled since the first year of the program (data year 1994). Reported direct reductions of carbon dioxide emissions increased by 12 percent, to 178 million metric tons carbon dioxide equivalent. Direct reductions of SF_6 increased by 3 percent over the levels reported for 2001. In contrast, the reported changes in nitrous oxide emissions went from a reduction of more than 700,000 metric tons carbon dioxide equivalent to an increase of 5,000 metric tons carbon dioxide equivalent. This change resulted from a revision to the method used by the Integrated Waste Services Association to estimate offsetting increases in nitrous oxide emissions resulting from the incineration of municipal solid waste (MSW). Reported reductions of indirect emissions increased by 11 percent, to 80 million metric tons carbon dioxide equivalent.

The sequestration reported peaked at 12 million metric tons for 1998 and has fallen below 10 million metric tons carbon dioxide for the three following years. This decline was caused by the decline in, or nonrecurrence of, sequestration reported for several large forest preservation initiatives. Those projects avoided carbon releases that would have been associated with logging over the time period when the forests would have been harvested, and the avoided emissions were reported as increased carbon sequestration over the same period. Also, American Forests, which reported sequestration for 164 reforestation projects for 2000, did not submit a report for 2001 or 2002. Unspecified reductions, which

Comparison of Global Warming Potentials from the Second and Third Assessment Reports of the Intergovernmental Panel on Climate Change

Global warming potentials (GWPs) are used to compare the abilities of different greenhouse gases to trap heat in the atmosphere. GWPs are based on the radiative efficiency (heat-absorbing ability) of each gas relative to that of carbon dioxide (CO_2), as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO_2. The GWP provides a construct for converting emissions of various gases into a common measure, which allows climate analysts to aggregate the radiative impacts of various greenhouse gases into a uniform measure denominated in carbon or carbon dioxide equivalents.

The generally accepted authority on GWPs is the Intergovernmental Panel on Climate Change (IPCC). In 2001, the IPCC updated its estimates of GWPs for key greenhouse gases. The table at the right compares the GWPs published in 1996 in the IPCC's Second Assessment Report[a] and those published in 2001 in the IPCC's Third Assessment Report.[b]

Beginning with the information reported to the Voluntary reporting of Greenhouse Gases Program for 2000, EIA has used the IPCC's revised GWPs to calculate carbon dioxide equivalents in summarizing the results.

Comparison of 100-Year GWP Estimates from the IPCC's Second (1996) and Third (2001) Assessment Reports

Gas	1996 IPCC GWP	2001 IPCC GWP
Methane	21	23
Nitrous Oxide	310	296
HFC-23	11,700	12,000
HFC-125	2,800	3,400
HFC-134a	1,300	1,300
HFC-143a	3,800	4,300
HFC-152a	140	120
HFC-227ea	2,900	3,500
HFC-236fa	6,300	9,400
Perfluoromethane (CF_4)	6,500	5,700
Perfluoroethane (C_2F_6)	9,200	11,900
Sulfur Hexafluoride (SF_6)	23,900	22,200

[a]Intergovernmental Panel on Climate Change, *Climate Change 1995: The Science of Climate Change* (Cambridge, UK: Cambridge University Press, 1996).

[b]Intergovernmental Panel on Climate Change, *Climate Change 2001: The Scientific Basis. Summary for Policymakers* (Cambridge, UK: Cambridge University Press, 2001).

Table 4. Summary of Reported Project-Level Emission Reductions and Carbon Sequestration by Reduction Objective and Gas, Data Year 2002
(Metric Tons Carbon Dioxide Equivalent)

Gas	Reductions by Project Objective				Total Reductions
	Reduce Carbon Dioxide Emissions	Reduce Methane and Nitrous Oxide Emissions	Increase Carbon Sequestration	Reduce Emissions of Halogenated Substances	
Direct					
Carbon Dioxide	187,842,890	-9,613,898[a]	1,875	—	178,230,867
Methane	3,912,863	76,158,998	—	—	80,071,861
Nitrous Oxide	19,750	-24,463[a]	—	—	-4,713[a]
HFCs	—	—	—	—	0
PFCs	4,453	—	—	3,556,903	3,561,356
SF_6	—	—	—	3,043,682	3,043,682
Total Direct	**191,779,956**	**66,520,637**	**1,875**	**6,600,585**	**264,903,052**
Indirect					
Carbon Dioxide	37,774,410	17,089,762	—	—	54,864,171
Methane	1,454,318	23,101,467	—	—	24,555,786
Nitrous Oxide	39,886	124,328	—	—	164,214
HFCs	—	—	—	47	47
PFCs	36,705	—	—	—	36,705
SF_6	—	—	—	81	81
Total Indirect	**39,305,319**	**40,315,557**	**—**	**127**	**79,621,003**
Sequestration					
Carbon Dioxide	—	—	7,296,514	—	7,296,514
Methane	—	—	—	—	—
Nitrous Oxide	—	—	—	—	—
HFCs	—	—	—	—	—
PFCs	—	—	—	—	—
SF_6	—	—	—	—	—
Total Sequestration	**—**	**—**	**7,296,514**	**0**	**7,296,514**
Unspecified[b]					
Carbon Dioxide	12,788,638	20,962	10,722	—	12,820,322
Methane	11,832	4,283,280	—	—	4,295,112
Nitrous Oxide	—	—	—	—	—
HFCs	—	—	—	—	—
PFCs	30	—	—	130,900	130,930
SF_6	—	—	—	10,201	10,201
Total Unspecified	**12,800,500**	**4,304,242**	**10,722**	**141,101**	**17,256,565**

[a]Negative reductions represent increases in emissions.

[b]Unspecified emission reductions represent quantities reported on the short form (Form EIA-1605EZ), where reporters are not asked to specify whether the emission reduction or sequestration is direct or indirect.

Notes: CFCs, HCFCs, and methyl chloroform are not included in the totals because of the uncertainty associated with estimates of net global warming potential for these gases. Their direct warming effects (radiative forcing) are offset by indirect cooling effects (destruction of stratospheric ozone, another greenhouse gas). Direct, indirect, and unspecified emission reductions and sequestration have not been totaled to avoid double counting of reductions or sequestration that have been reported by more than one entity.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

Table 5. Summary of Reported Project-Level Emission Reductions and Carbon Sequestration by Gas, Data Years 1994-2002

(Metric Tons Carbon Dioxide Equivalent)

Year	Carbon Dioxide	Methane	Nitrous Oxide	HFCs	PFCs	Sulfur Hexafluoride	Total
Direct							
1994	58,413,709	576,808	339,485	-29	3,199,649	83,579	**62,613,201**
1995	85,419,479	194,350	-438,673	-43	2,962,416	186,382	**88,323,910**
1996	77,601,577	9,411,042	-423,599	15,193	3,345,811	-69,985	**89,880,039**
1997	82,269,887	8,705,355	86,294	-42	3,318,600	516,732	**94,896,824**
1998	112,038,605	31,720,732	109,560	-1,738	3,504,380	624,786	**147,996,326**
1999	115,366,719	35,994,030	62,111	-1,738	3,425,480	595,379	**155,441,981**
2000	144,096,233	61,945,794	114,198	—	3,233,612	1,407,347	**210,797,186**
2001(R)	159,129,312	81,569,042	711,633	—	3,606,813	2,475,144	**247,491,944**
2002	178,230,867	80,071,861	-4,713	—	3,561,356	3,043,682	**264,903,052**
Indirect							
1994	2,994,405	2,360,734	2,243	—	—	—	**5,357,381**
1995	27,063,660	24,777,246	630,358	—	—	7,653	**52,478,917**
1996	26,207,709	26,612,114	616,075	—	—	—	**53,435,898**
1997	25,848,951	11,630,239	102,639	—	3,631	81	**37,585,541**
1998	27,968,865	15,152,664	105,598	—	6,068	81	**43,233,274**
1999	37,233,635	19,027,769	270,531	—	5,856	81	**56,537,872**
2000	41,276,444	20,641,700	115,689	—	35,459	81	**62,069,372**
2001(R)	48,255,932	23,216,197	154,566	—	34,319	81	**71,661,094**
2002	54,864,171	24,555,786	164,214	47	36,705	81	**79,621,003**
Sequestration							
1994	746,545	—	—	—	—	—	**746,545**
1995	1,190,754	—	—	—	—	—	**1,190,754**
1996	8,676,591	—	—	—	—	—	**8,676,591**
1997	9,849,807	—	—	—	—	—	**9,849,807**
1998	12,490,927	—	—	—	—	—	**12,490,927**
1999	9,623,599	—	—	—	—	—	**9,623,599**
2000	9,011,117	—	—	—	—	—	**9,011,117**
2001(R)	7,956,823	—	—	—	—	—	**7,956,823**
2002	7,296,514	—	—	—	—	—	**7,296,514**
Unspecified[a]							
1994	3,721,047	564,022	—	—	—	—	**4,285,069**
1995	4,959,366	1,162,752	—	—	—	—	**6,112,117**
1996	4,436,523	1,232,174	—	—	—	—	**5,668,697**
1997	6,688,175	1,825,383	—	—	123,049	—	**8,636,607**
1998	16,499,427	2,918,818	—	—	—	—	**19,418,245**
1999	9,607,428	3,273,878	—	—	—	4,783	**12,886,089**
2000	9,125,506	3,127,762	—	—	—	20,744	**12,274,012**
2001(R)	10,855,046	3,960,348	—	—	4,046	20,261	**14,839,701**
2002	12,820,322	4,295,112	—	—	130,930	10,201	**17,256,565**

(R) = revised.

[a]Unspecified emission reductions represent quantities reported on the short form (Form EIA-1605EZ), which does not distinguish between direct and indirect emission reductions or sequestration.

Notes: Reductions of CFCs, HCFCs, and methyl chloroform are not included in the totals because of the uncertainty associated with estimates of their net global warming potential. Their direct warming effects (positive radiative forcing) are offset by indirect cooling effects (destruction of stratospheric ozone, another greenhouse gas). Totals may not equal sum of components due to independent rounding. Direct, indirect, and unspecified emission reductions and sequestration have not been totaled, in order to avoid double counting of reductions or sequestration that have may been reported by more than one entity. Negative reductions represent increases in emissions.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

include reductions and sequestration reported on the short form, increased by 16 percent to 17 million metric tons carbon dioxide equivalent in 2002.

Project-Level Reference Cases

Beginning with the 2000 annual report, EIA began dividing project-level data according to the reference case employed in calculating reported project-specific emission reductions. A "reference case" is an emissions or sequestration level against which actual emissions are compared to estimate emission reductions. In a "basic" reference case, actual historical emissions (or sequestration) in a specific year, or an average of a range of years, are used as the reference case. In a "modified" reference case, an estimate is made of what emissions or sequestration would have been in the absence of the project, and that estimate serves as the reference case.

Ninety-three percent of the projects reported for 2002 on Form EIA-1605 used modified reference cases (Table 6). A modified reference case is generally preferred for project-level analysis, because this approach attempts to isolate the effect of the action taken by the reporter from other factors that may have affected the reporter's emissions since the action was taken. The use of basic reference cases for 2002 was greatest for projects that reported reducing emissions of halogenated substances (50 percent of those projects), because the techniques for evaluating reductions for the projects are particularly suited to the use of a basic reference case. Emissions are determined using inventory management data, with emissions of a particular substance being equal to the amount purchased during the year to replace quantities emitted. Annual reductions can be calculated by subtracting the emissions in the years after emission abatement measures have been instituted from the emissions in the year before the measures were instituted.

In terms of emission reductions and sequestration reported for 2002, 257 million metric tons carbon dioxide equivalent of direct emissions (97 percent of total direct reductions), 78 million metric tons carbon dioxide equivalent of indirect emissions (98 percent of total indirect reductions), and 7 million metric tons carbon dioxide equivalent of sequestration (94 percent of total sequestration reductions) were reported as having been estimated using modified reference cases (Table 7). The only project category for which a significant proportion (87 percent) of the reported direct reductions were estimated using basic reference cases was halogenated substances.

Entity Level

Most of the 114 reporters providing entity-level information included data on emissions as well as emission reductions or sequestration. Six reporters provided

Table 6. Number of Projects Reported on Form EIA-1605 by Reduction Objective, Project Type, and Reference Case Employed, Data Year 2002
(Number of Projects)

Reduction Objective and Project Type	Type of Reference Case				Total Number of Projects
	Modified		Basic		
	Number of Projects	Percent	Number of Projects	Percent	
Reducing Carbon Dioxide Emissions	**732**	**92**	**61**	**8**	**793**
Electricity Generation, Transmission, and Distribution	392	98	6	2	398
Cogeneration and Waste Heat Recovery	19	95	1	5	20
Energy End Use	266	84	49	16	315
Transportation and Offroad Vehicles	55	92	5	8	60
Reducing Methane and Nitrous Oxide Emissions	**438**	**98**	**7**	**2**	**445**
Waste Treatment and Disposal (Methane)	399	99	4	1	403
Agriculture (Methane and Nitrous Oxide)	3	100	0	0	3
Oil and Natural Gas Systems and Coal Mining (Methane)	36	92	3	8	39
Carbon Sequestration	**392**	**95**	**20**	**5**	**412**
Halogenated Substances	**21**	**50**	**21**	**50**	**42**
Other Emission Reduction Projects	**72**	**88**	**10**	**12**	**82**
Total	**1,655**	**93**	**119**	**7**	**1,774**

Notes: Excludes projects reported on the short form (Form EIA-1605EZ), which does not collect information on the reference case employed. Excludes two projects reported on the long form (Form EIA-1605) for which no reference case was specified because reductions were not estimated. Table excludes projects submitted in confidential reports.
Source: Energy Information Administration, Forms EIA-1605.

entity-level data on emissions only, and another five reporters provided entity-level data on emission reductions or sequestration only.

Total entity-level direct emissions reported for 2002 were 870 million metric tons, which represents a 9-percent increase from the 800 million metric tons reported for 2001 (Table 8). Total entity-level indirect emissions reported for 2002 were less than 1 percent lower than those reported for 2001, at 111 million metric tons carbon dioxide equivalent. Total direct emission reductions reported at the entity level for 2002 were 1.3 percent lower than those reported for 2001—209 million metric tons carbon dioxide equivalent, as compared with 212 million metric tons carbon dioxide equivalent. For 2002, 148 million metric tons carbon dioxide equivalent (71 percent) of the reported direct reductions were estimated using modified reference cases, and 29 percent were estimated with basic reference cases.

Reported entity-level indirect emission reductions for 2002 totaled 36 million metric tons carbon dioxide

Table 7. Reported Emission Reductions and Sequestration for Projects Reported on Form EIA-1605 by Reduction Objective, Project Type, Source, and Reference Case Employed, Data Year 2002
(Metric Tons Carbon Dioxide Equivalent)

Reduction Objective and Project Type	Direct Reductions		Indirect Reductions		Sequestration	
	Modified	Basic	Modified	Basic	Modified	Basic
Reducing Carbon Dioxide Emissions	**185,490,343**	**2,220,921**	**24,285,647**	**149,321**	**0**	**0**
Electricity Generation, Transmission, and Distribution	160,390,367	1,622,551	11,905,462	430	NA	NA
Cogeneration and Waste Heat Recovery	1,098,076	-482	3,327,057	0	NA	NA
Energy End Use	23,975,176	583,610	8,893,438	147,425	NA	NA
Transportation and Offroad Vehicles	26,724	15,242	159,690	1,466	NA	NA
Reducing Methane and Nitrous Oxide Emissions	**66,138,998**	**381,639**	**39,212,250**	**1,103,307**	**NA**	**NA**
Waste Treatment and Disposal (Methane)	47,812,587	372,667	39,173,085	1,103,307	NA	NA
Agriculture (Methane and Nitrous Oxide)	180	0	22,623	0	NA	NA
Oil and Natural Gas Systems and Coal Mining (Methane)	18,326,231	8,972	16,541	0	NA	NA
Carbon Sequestration	**1,875**	**0**	**0**	**0**	**6,827,104**	**469,410**
Halogenated Substances	**855,269**	**5,745,315**	**127**	**0**	**NA**	**NA**
Other Emission Reduction Projects	**4,068,692**	**0**	**14,028,588**	**672,187**	**NA**	**NA**
Total	**256,555,177**	**8,347,875**	**77,526,612**	**1,924,815**	**6,827,104**	**469,410**

Note: Excludes reductions and sequestration for projects reported on the short form (Form EIA-1605EZ), which does not collect information on the reference case employed. Excludes projects submitted in confidential reports.
Source: Energy Information Administration, Form EIA-1605.

Table 8. Number of Entities Reporting at the Entity Level, Reported Emissions by Source, Emission Reductions by Source and Type of Reference Case Employed, and Sequestration, Data Years 1994-2002
(Million Metric Tons Carbon Dioxide Equivalent)

Year	Number of Entities Reporting	Emissions		Emission Reductions by Type of Reference Case						Sequestration
				Direct			Indirect			
		Direct	Indirect	Modified	Basic	Total	Modified	Basic	Total	
1994	39	752.7	494.9	38.2	22.6	60.8	1.6	1.2	2.8	0.5
1995	50	875.8	499.6	56.0	39.3	95.3	46.0	2.7	48.6	0.8
1996	55	1,183.1	461.5	65.4	44.6	110.0	42.9	5.7	48.6	7.9
1997	60	1,006.6	525.8	73.7	20.3	94.0	24.8	3.4	28.2	7.1
1998	76	1,110.7	473.5	105.8	22.6	128.4	28.3	13.2	41.6	11.2
1999	83	967.9	481.0	114.7	35.3	150.0	30.3	8.4	38.7	8.4
2000	109	1,068.2	111.7	123.6	83.0	206.7	34.8	-7.8	27.0	7.5
2001(R)	114	799.6	111.5	121.4	90.4	211.9	38.9	-6.7	32.2	7.5
2002	114	869.8	111.0	148.2	60.9	209.1	44.2	-7.7	36.4	6.8

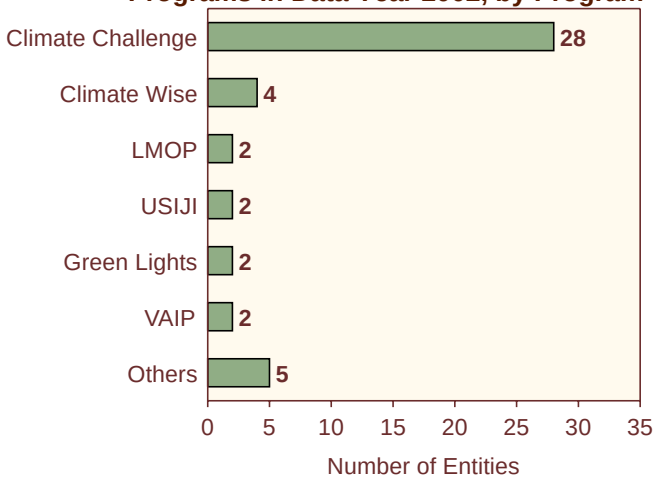
(R) = revised.
Notes: 2001 data year includes late reports that were not received in time to be included in last year's annual report and database. Negative reductions represent increases in emissions.
Source: Energy Information Administration, Form EIA-1605.

equivalent, 13 percent higher than the total reported for 2001. Reported indirect reductions of 44 million metric tons carbon dioxide equivalent calculated with modified reference cases were offset by -8 million metric tons carbon dioxide equivalent of indirect reductions (i.e., a net increase in emissions) calculated with basic reference cases. Entity-level sequestration reported for 2002 totaled 7 million metric tons carbon dioxide equivalent, 9 percent less than was reported for 2001.

Commitments

Seventy-nine entities reported formal commitments to reduce emissions, take specific action to reduce emissions, or provide financial support for activities related to greenhouse gas reductions.[5] More than one-third (34 percent) of these entities are electricity generators participating in the Climate Challenge Program (Figure 3). Other voluntary programs represented among the commitments reported for 2002 included Climate Wise, the Voluntary Aluminum Industrial Program, the U.S. Initiative on Joint Implementation, the Green Lights Program, the Landfill Methane Outreach Program, Motor Challenge, and the Sulfur Hexafluoride Emissions Reduction Partnership for Electric Power Systems.[6]

Figure 3. Number of Entities Reporting Commitments Associated with Voluntary Programs in Data Year 2002, by Program



Notes: LMOP = Landfill Methane Outreach Program, USIJI = United States Initiative on Joint Implementation, VAIP = Voluntary Aluminum Industry Partnership. Others include Coalbed Methane Outreach Program, Cool Communities Program, Motor Challenge Program, and Sulfur Hexafluoride Emissions Reduction Partnership for Electric Power Systems. The sum of entities reporting commitments associated with each program exceeds the total number of entities reporting commitments because several entities reported commitments associated with more than one program.

Source: Energy Information Administration, Form EIA-1605.

There are three forms of future commitment in the Voluntary Reporting Program: entity commitments, financial commitments, and project commitments. Entity and project commitments roughly parallel the entity and project aspects of emissions reporting: an entity commitment is a commitment to reduce the emissions of an entire organization; a project commitment is a commitment to take a particular action that will have the effect of reducing the reporter's emissions through a specific project. A financial commitment is a pledge to spend a particular sum of money on activities related to emission reductions, without a specific promise as to the emissions consequences of the expenditure.

Twenty-four firms made 30 specific promises to reduce, avoid, or sequester future emissions at the entity level. Some of those entity-level commitments were to reduce emissions below a specific baseline, others to limit the growth of emissions per unit of output, and others to limit emissions by a specific amount relative to a baseline emissions growth trend. In their reports for 2002, companies reported commitments to reduce entity-level emissions by a total of 340 million metric tons carbon dioxide equivalent, including 17 commitments, representing 67 million metric tons carbon dioxide equivalent or 20 percent of the emission reductions promised, that were to be fulfilled by 2002 or earlier. The other 13 entity-level commitments, which promised reductions totaling 273 million metric tons carbon dioxide equivalent, were to be fulfilled by 2003 or later.

Twenty-six companies reported on commitments to undertake 184 individual emission reduction projects. Some of the commitments were linked to results from projects already underway and forming part of the reporters' submissions. Others were for projects not yet begun. Reporters indicated that the projects were expected to reduce future emissions or increase carbon sequestration by 329 million metric tons carbon dioxide equivalent. Twenty-one firms made financial commitments. The total amount of funds promised was $51 million, of which $5 million was reported to have been expended in 2002.

Status of Policy Initiatives

In 2003, the Bush Administration continued to develop components of its Global Climate Change Initiative, which is expected to include enhancements to the Voluntary Reporting of Greenhouse Gases Program (see boxes on pages 14 and 15). In addition, some States and other organizations continued progress toward the development of greenhouse gas registry and trading

[5]Fifty companies reported formal commitments in one or more of the entity-level, project-level, or financial categories accommodated by Form EIA-1605. Thirty-five companies provided descriptions of future activities only in the Additional Information section of Schedule IV.

[6]The Climate Wise and Green Lights voluntary programs were incorporated into the EPA's Energy STAR prgoram in 2001.

programs; and the U.S. Congress considered, but did not pass, legislation relevant to greenhouse gas reporting. These developments, which occurred in 2003, would not have affected the reported emissions and emission reductions data for activities in 2002 discussed in this report, even if they had been formalized in laws or policies; however, they may affect the future of the Voluntary Reporting Program, future reporting of reductions or commitments, or both.

Enhanced 1605(b) Voluntary Emissions Reduction Registry

Pursuant to a key objective of the Global Climate Change Initiative, DOE is working to improve and expand the 1605(b) Voluntary Reporting of Greenhouse Gases Program. The primary goal of this effort is to create a credible and transparent program to report real reductions that support the national greenhouse gas

The Global Climate Change Initiative

On February 14, 2002, President George W. Bush announced the Administration's Global Climate Change Initiative, which includes new emission intensity reduction goals, incentives for clean technology development, added support for scientific research, expanded collaboration with foreign governments on climate change, and the development of a framework for the enhancement of the Voluntary Reporting of Greenhouse Gases Program.

A primary goal of the Global Climate Change Initiative is to slow the growth rate of greenhouse gas emissions while sustaining economic growth, using market mechanisms and energy technology development. In the proposal, the President established a national goal of reducing the greenhouse gas intensity of the U.S. economy by 18 percent between 2002 and 2012. Emissions intensity is a measure of the ratio of greenhouse gas emissions to economic output (gross domestic product). To achieve the goal, the Initiative focuses on fossil fuel energy conservation, methane recovery, and carbon sequestration in the short term and development of advanced energy technologies in the longer term.

Key domestic and international elements of the Global Climate Change Initiative include:

- Domestic climate change initiatives:
  - Enhancement of the 1605(b) Voluntary Reporting of Greenhouse Gases Program
  - Significantly expanded funding for basic scientific research and advanced technology development
  - Tax incentives, such as credits for renewable energy, cogeneration, and new technology
  - Challenges for business to undertake voluntary initiatives and commit to greenhouse gas intensity goals, such as through recent agreements with the semiconductor and aluminum industries
  - Transportation programs, including technology research and development and fuel economy standards
  - Carbon sequestration programs, which include increased funding for U.S. Department of Agriculture conservation programs under the Farm Bill to enhance the natural storage of carbon, promote the development of targeted incentives for forestry and agriculture projects to increase carbon sequestration, and establish accounting rules and guidelines for crediting sequestration projects
- International climate change initiatives:
  - Investments in climate observation systems in developing countries
  - Funding for "debt-for-nature" forest conservation programs
  - Use of economic incentives to encourage developing countries to participate in climate change initiatives
  - Expanding technology transfer and capacity building in the developing world
  - Joint research with Japan, Italy, and Central America.

The Global Climate Change Initiative includes a future progress check: the U.S. Government, in 2012, will evaluate whether its greenhouse gas emissions reduction progress is sufficient and whether scientific understanding at that time will justify further action. If further action is deemed necessary, the Initiative proposes to accelerate technology development and deployment using additional market-based mechanisms, voluntary measures, and incentive programs.

intensity goal laid out in the Global Climate Change Initiative. In addition, a goal of the enhanced 1605(b) Program is to allow businesses and individuals to record their reductions and ensure that reporters are not penalized under a future climate policy. The objective of improving the registry is to help motivate firms to take cost-effective, voluntary actions to reduce greenhouse gas emissions, which would, in part, aid in the achievement of the Initiative's greenhouse gas intensity goal.

An interagency working group has undertaken several actions to improve the Voluntary Reporting Program, including outreach efforts, solicitation of public comments, and review of the existing program. On July 8, 2002, the Secretary of Energy, joined by the Secretary of Commerce, the Secretary of Agriculture, and the EPA Administrator, submitted recommendations to the White House to guide the process for improving and expanding the Voluntary Reporting Program.

In 2003, DOE continued to collaborate with the Departments of Agriculture and Commerce and the EPA in developing revised Guidelines for the Voluntary Reporting of Greenhouse Gases Program. In November 2003, DOE released proposed revisions to the General Guidelines, which outline the principles that would govern the program. That release was followed by a 60-day comment period. DOE also held a public workshop in Washington, DC, on January 12, 2004, to encourage an open exchange of views on issues raised by the proposal.

To supplement the General Guidelines, DOE is also developing Technical Guidelines that specify the methods and factors to be used in measuring and estimating greenhouse gas emissions, emission reductions, and carbon sequestration. DOE expects to release both revised General and Technical Guidelines for combined review in late spring or early summer and plans to issue final revised General and Technical Guidelines to the Voluntary Reporting of Greenhouses Gases Program by the end of 2004, with the expectation that EIA will implement the enhanced program in 2005.

Other U.S., State, and International Greenhouse Gas Initiatives and Registry Programs

Voluntary greenhouse gas emissions reporting programs and other State initiatives, such as emissions targets, emissions inventories and monitoring, and emissions mitigation strategies, continue to gain momentum as the Federal Government develops programs to meet the greenhouse gas emission intensity goals established in the President's Global Climate Change Initiative, and as the States investigate the most cost-effective policies to address climate change. Highlights of Federal, State, regional and other voluntary program activities in 2003 are summarized below.

President's Climate VISION. On February 12, 2003, DOE, on behalf of President Bush, launched the President's "Climate VISION" (Voluntary Innovative Sector Initiatives: Opportunities Now)—a voluntary public-private partnership to pursue cost-effective initiatives to reduce the projected growth in U.S. greenhouse gas emissions. Climate VISION, to be administered by DOE, is intended to help meet the President's greenhouse gas intensity goal. Climate VISION involves Federal

Recommendations for Improving the Voluntary Reporting of Greenhouse Gases Program

The Secretaries of Energy, Commerce, and Agriculture and the EPA Administrator on July 8, 2002, submitted to the White House the following recommendations for improving and expanding the Voluntary Reporting of Greenhouse Gases Program:

- Develop fair, objective, and practical methods for reporting baselines, reporting boundaries, calculating real results, and awarding transferable credits for actions that lead to real reductions
- Standardize widely accepted, transparent accounting methods
- Support independent verification of registry reports
- Encourage reporters to report greenhouse gas intensity (emissions per unit of output) as well as emissions or emission reductions
- Encourage corporate or entity-wide reporting
- Provide credits for actions to remove carbon dioxide from the atmosphere (e.g., sequestration activities) as well as for actions to reduce emissions
- Develop a process for evaluating the extent to which past reductions may qualify for credits
- Ensure that the Voluntary Reporting Program will be an effective tool to assist in reaching the goal of an 18-percent reduction in greenhouse gas intensity
- Factor in international strategies as well as State-level efforts
- Minimize transactions costs for reporters and administrative costs for the Government, where possible, without compromising the recommendations above.

agencies, including DOE, the EPA, and the Departments of Agriculture and Transportation, working with industry partners to reduce greenhouse gas emissions voluntarily over the next decade. Business associations representing 12 industry sectors and the Business Roundtable have become program partners with the Federal Government and have issued letters of intent to meet specific targets for reducing greenhouse gas emissions intensity. These Climate VISION partners, which include some of the largest companies in America, represent a broad range of industry sectors: oil and gas production, transportation, and refining; electricity generation; coal and mineral production and mining; manufacturing (automobiles, cement, iron and steel, magnesium, aluminum, chemicals, and semiconductors); railroads; and forestry products.

Climate Leaders. In February 2002, the EPA established Climate Leaders, a new voluntary industry-government partnership to encourage companies to establish clear greenhouse gas emission reduction targets and develop comprehensive long-term strategies for mitigating climate change. In 2003, the EPA recruited additional partners into the program and continued to develop reporting requirements. The Climate Leaders program has recruited 54 partners, 20 of which have established greenhouse gas reduction goals. By joining Climate Leaders, the partners commit themselves to documenting their emissions of the six major greenhouse gases (carbon dioxide, methane, nitrous oxide, HFCs, PFCs, and SF_6) on a company-wide, facility-level basis (including, at a minimum, all their domestic facilities). Climate Leaders includes a number of reporting options, and the EPA plans to solicit feedback from partners in early 2004 on the type and level of data to be reported under the program.

California. The California Climate Action Registry (CCAR), a voluntary program for reporting and registering greenhouse gas emissions that occur inside or outside the State of California, issued reporting protocols and began enrolling members in October 2002. The CCAR requires third-party verification and seeks to protect participants' reported reductions under possible future regulatory programs. As of November 2003, the CCAR had enrolled more than 40 organizations and companies, with combined annual revenues of more than $140 billion.[7] The CCAR has also developed an online reporting tool, the California Action Registry Reporting On-line Tool (CARROT), in order to simplify the inventorying and reporting of greenhouse gas emissions.

Wisconsin. Wisconsin has developed a registry for recording reductions in emissions of greenhouse gases and other pollutants. To date, the registry has received one report involving a reduction in emissions of volatile organic compounds (VOCs).

Northeastern States. The six New England States and the Eastern Canadian Provinces are engaged in a joint effort to develop a regional greenhouse gas registry, as specified in the New England Governors and Eastern Canadian Premiers (NEG/ECP) Climate Change Action Plan, which was issued in 2001. In the United States, this effort has been spearheaded by the Northeast States for Coordinated Air Use Management (NESCAUM), an interstate association of air quality control divisions from the New England States, New York, and New Jersey.[8] NESCAUM has received a grant from The Energy Foundation to develop and implement a regional greenhouse gas registry and is collaborating with California to use CCAR's CARROT software.[9] In July 2003, New York Governor George Pataki announced that he had received commitments from nine northeastern States (the NESCAUM States plus Pennsylvania) to develop a cap-and-trade program to reduce carbon dioxide emissions from power plants.[10]

West Coast States. In September 2003, the governors of Washington, Oregon, and California announced a new joint initiative to address climate change by developing policy recommendations on a range of issues that require regional cooperation, including the development of protocols and standard accounting methods for greenhouse gas emissions reporting.[11] The specifics of the registry have not been announced.

Other States. Other States, including Illinois, Iowa, Maine, and Texas, have taken initial steps toward the development of State-level registries of greenhouse gas emissions.

WRI/WBCSD Greenhouse Gas Protocol Initiative. The World Resources Institute (WRI) and the World

[7]Seven of the organizations have at one time or another submitted reports to the Voluntary Reporting Program, including the following reporters for 2002: Los Angeles Department of Water and Power, PG&E Corporation, Sacramento Municipal Utility District, and Southern California Edison.

[8]Conference of New England Governors and Eastern Canadian Premiers, *Report to the New England Governors and Eastern Canadian Premiers on Climate Change Projects* (August 2003), web site www.cmp.ca/images/pdf/eng/2003ReportClimate.pdf.

[9]"Regionally Coordinated Climate Change Policies Gaining Momentum in the Northeast U.S.," in *Issue Spotlight* (U.S. Climate Policy Service, M.J. Bradley Associates, Inc.), web site www.mjbradley.com/uscps.html.

[10]Governor George Pataki, "Governor Announces Cooperation on Clean Air Initiative" (Press Release, July 24, 2003), web site www.state.ny.us/governor/press/year03/july24_03.htm.

[11]"Statement of the Governors of California, Oregon and Washington on Regional Action to Address Global Warming" (September 22, 2003), web site www.climatesolutions.org/pubs/pdfs/Governors%20Statement.pdf.

Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol initiative is not a formal reporting program but an international program for developing accounting and reporting standards for greenhouse gas emissions and reductions that can be adopted by other reporting programs and registries. WRI/WBCSD has developed a corporate protocol for entity-level reporting, which is currently under revision. WRI/WBCSD is also developing a project module, which is expected to be released in 2004, and various calculation tools to assist users of the protocol in quantifying their greenhouse gas emissions.[12]

World Economic Forum Global Greenhouse Gas Register. In December 2003, the World Economic Forum announced the creation of a Global Greenhouse Gas Register to provide a transparent, internationally consistent framework for companies to report emissions inventories and reduction targets. Eight major corporations (which, according to the World Economic Forum, represent nearly 5 percent of all global greenhouse gas emissions) have committed to participate in the registry: Anglo American, Cemex, Hewlett-Packard, Lafarge, RAO Unified UESR, RWE, ScottishPower and Vattenfall.[13] The Global Greenhouse Gas Register intends to begin accepting reports in January 2004, using reporting software based on CCAR's CARROT software.[14]

Federal Legislation on Voluntary Greenhouse Gas Reporting

Several bills addressing the reporting of greenhouse gas emissions, emission reductions, and carbon sequestration by individual entities were introduced at the beginning of the 108th Congress, which convened in January 2003. Of the bills that were introduced, only S. 139, the Climate Stewardship Act of 2003, introduced in the U.S. Senate by Senators Joe Lieberman (D-CT) and John McCain (R-AZ), was the subject of a floor vote in either chamber. S. 139 was intended to limit greenhouse gas emissions by establishing a system of tradable emissions allowances, similar to the cap-and-trade system that has been used to limit sulfur dioxide emissions from electric power plants.

Beginning in 2010, the system proposed in S. 139 would have required allowances for emissions from entities with emissions exceeding 10,000 metric tons carbon dioxide equivalent, from producers and importers of HFCs, PFCs, and SF_6, and from producers and importers of fossil fuels used for transportation. The objective of the legislation was to reduce emissions by the covered entities to 2000 levels by 2010. The original bill also included a second target that would have required covered entities to reduce emissions to 1990 levels by 2016; however, that provision was removed before the floor vote. The bill also included provisions for voluntary reporting of greenhouse gas emission reductions achieved between 1990 and 2010. Allowance allocation credits would have been awarded to the reporters of emission reductions.[15] On October 30, 2003, the Senate voted by a 55-43 margin to reject S. 139.[16]

Other legislation introduced in the 108th Congress included the following bills:

S. 17, Global Climate Security Act of 2003. Senator Tom Daschle (D-SD) and 15 other Senators introduced S. 17 in January 2003. Title II of the bill, the National Greenhouse Emissions Inventory and Registry Act of 2003, was based on S. 1870, a bill introduced in December 2001 by Senator Jon Corzine (D-NJ) in the 107th Congress.[17] S. 17 included provisions for mandatory reporting of greenhouse gas emissions by entities emitting more than a threshold quantity of greenhouse gas (to be determined by the EPA Administrator). It also included provisions for voluntary reporting of emission reductions and sequestration increases by participating entities, with the EPA establishing and administering a national greenhouse gas registry to collect the information reported.

S. 366, Clean Power Act of 2003. Introduced by Senator Jim Jeffords (I-VT), S. 366 included a goal of reducing emissions of sulfur dioxide, nitrogen oxides, carbon dioxide, and mercury from electric power plants.

[12]World Business Council for Sustainable Development and World Resources Institute, *Greenhouse Gas Protocol Initiative*, Newsletter No. 9 (September 2003).

[13]World Economic Forum, "World Economic Forum Creates Global Greenhouse Gas Register" (Press Release, December 9, 2003), web site www.weforum.org.

[14]California Climate Action Registry, "CA Registry's Online Tool To Serve as Foundation for Global Greenhouse Gas Register" (Press Release, December 9, 2003), web site www.climateregistry.org.

[15]Energy Information Administration, *Analysis of S.139, the Climate Stewardship Act of 2003*, SR/OIAF/2003-02 (Washington, DC, June 2003), p. 1.

[16]Reuters News Service, "Senate Rejects Bipartisan Plan to Cap Greenhouse Gases" (November 3, 2003).

[17]On January 17, 2003, Senators Corzine, Jeffords, and Lieberman also separately introduced the National Greenhouse Gas Emissions Inventory and Registry Act of 2003 (S. 194), which was almost identical to Title II of S. 17. On March 12, 2003, Representative John Olver (D-MA) and 28 others introduced H.R. 1245, the National Greenhouse Gas Emissions Inventory Act of 2003, in the U.S. House of Representatives. H.R. 1245 was nearly identical to S. 194.

Annual carbon dioxide emissions at plants with a nameplate capacity of 15 megawatts or more would have been capped at 2.05 billion tons[18] beginning in 2009. Generators covered by the legislation would have been allocated emissions allowances for the covered gases and would have been able to trade their unused allowances for emissions of carbon dioxide and the other pollutants, except mercury.

S. 843, Clean Air Planning Act of 2003. Senators Tom Carper (D-DE), Lincoln Chafee (R-RI), and Judd Gregg (R-NH) introduced S. 843 on April 9, 2003. The bill included provisions for market-based programs to reduce emissions of carbon dioxide, sulfur dioxide, nitrogen oxides, and mercury. It would have capped carbon dioxide emissions from covered electric power plants at projected 2006 levels in the years 2009 through 2012 and at 2001 levels in 2013 and subsequent years. A version of S. 843 was introduced in the U.S. House of Representatives as H.R. 3093 by Rep. Charlie Bass (R-NH) on September 16, 2003.

Accounting Issues for Voluntary Reporting and Beyond

The Voluntary Reporting of Greenhouse Gases Program was designed primarily to serve as a mechanism by which entities could report voluntary actions intended to reduce greenhouse gas emissions and sequester carbon.[19] EIA has the responsibility, among other things, for establishing and maintaining a database of reported greenhouse reductions that also serves as a national registry of reported reductions. While the information in the database may be used by the reporting entity to demonstrate achieved reductions of greenhouse gases, the program was not designed to support credit for early reductions or emissions trading programs. The program guidelines did not attempt to resolve the issues that arise in constructing the required reporting rules that would create a set of comparable, verifiable, auditable emission and reduction reports. Such rules would also be required for the flexible mechanisms, such as the Clean Development Mechanism, Activities Implemented Jointly, and Joint Implementation, included in the United Nations Framework Convention on Climate Change and its Kyoto Protocol.

The current Voluntary Reporting of Greenhouse Gases Program allows reporters considerable flexibility in the scope and content of their reports. As a result, companies can report their emissions and reductions in several different ways, and potentially more than one reporter can claim the same reduction. Some commentators on the program have characterized this aspect as a defect: a problem needing a solution. A more restrictive program, however, could limit the number of entities reporting, as well as the types of activities reported. Therefore, because it tends to increase participation in voluntary reporting, flexibility can be viewed as a useful attribute of the program for the following reasons:

- The educational and public recognition aspects of the program are enhanced by maximizing the participation and do not necessarily require a complete and fully-defined system of property rights to a reported emission reduction.
- The Voluntary Reporting Program can be viewed as a survey of emission accounting methods and theories actually in use, and a set of illustrations of the potential accounting and baseline problems that must be confronted in designing future policy instruments. A more structured approach might have been less useful for identifying and analyzing these emissions accounting issues.
- The Voluntary Reporting database illustrates the range and diversity of concrete actions that firms can undertake to limit greenhouse gas emissions, including many not imagined by the designers of the program. A more structured approach might have excluded some of the more original and innovative projects reported to the program.

These features make the program useful in evaluating the design and consequences of any proposed credit for early action program as well as the Kyoto Protocol's flexible mechanisms. By creating a database of real-world emission reduction actions and actors, the data reported to the Voluntary Reporting Program can be used to gain insight into the incentive effects and beneficiaries of various credit for early action and related proposals. The Voluntary Reporting of Greenhouse Gases database has provided a mechanism for identifying some of the issues that would have to be resolved in developing an accounting system for quantifying emissions, emission reductions, and sequestration. Such an accounting system will have to answer the following questions:

- Who can report?
- What is a reduction?
- Who owns the reduction?

[18]Equivalent to 1.86 billion metric tons carbon dioxide. Total carbon dioxide emissions from the electric power sector in 2000 are estimated by EIA at 2.25 million metric tons. See Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), Table 10, p. 30, web site www.eia.doe.gov/oiaf/1605/1605a.html.

[19]This discussion of accounting issues is based on testimony given by Jay Hakes, former EIA Administrator, on March 30, 2000, before the Senate Committee on Energy and Natural Resources on Senate Bills S. 882 and S. 1776 and their potential impacts on EIA's Programs. The full text of the testimony is available on EIA's web site at www.eia.doe.gov/neic/speeches/hrtest3-30-00/testimony3.htm.

- Would the reduction have happened anyway?
- How does one verify reports?

Who Can Report?

Section 1605(b) of the Energy Policy Act of 1992 mentioned only "entities" and "persons" as prospective reporters. Several overlapping concepts of "who can report" surfaced at the public hearings for the guidelines for the Voluntary Reporting Program, all of which were accommodated. These included:

- **A legal person: i.e., an individual, household, corporation, or trade association.** In this approach, emissions and reductions are calculated and reported for the entire entity.
- **A facility or group of facilities.** Emissions and reductions are calculated as those of a particular facility, defined as a single plant in a specified location, or perhaps even a single stack within a plant. A corporation or legal person acquires responsibility for emissions and reductions through ownership of one or more specified facilities.
- **A "project" or activity.** Reductions are defined by comparing the emissions from some set of sources deemed relevant with an estimate of what emissions would have been if a particular action or bundle of actions had not been undertaken.

What is a Reduction?

Perhaps the most intuitive definition of a reduction is one measured against an historical baseline, which represents the use of a "basic reference case." In this approach, the reduction is defined as the difference between the emissions of an entity or facility in a prior, baseline year, usually 1990, and in the current year. This approach is best suited to reporters whose activities have not appreciably changed since the baseline year. It presents particular problems for firms that have participated in mergers, acquisitions, or divestitures, or have made significant changes in the composition of their business. Startup companies or new facilities that have no history cannot use historical baselines. The historical baseline approach is also not well suited to measuring the reductions achieved by projects, because projects are often entirely new activities with no history.

Alternatively, many reporters define their reductions by comparison with what would have happened in the absence of a specified set of actions. Thus, corporate emissions may have risen, but they are less than they would have been in the absence of corporate action. This approach is called, in the Voluntary Reporting Program, a "modified reference case" or a "hypothetical baseline." It is important to point out, however, that a hypothetical baseline is a best guess of what would have happened in the absence of a project, and there is no way *per se* to prove or disprove it. Most of the projects reported to the Voluntary Reporting Program use a hypothetical baseline to calculate emission reductions or sequestration.

The "unit of production" approach is a variant of the fixed historical baseline, where the reporter normalizes baseline emissions to reflect changes in production. If emissions per unit of output have declined, by comparison either with levels in a prior year or with what they would have been in the absence of some actions, then the reporter has a reduction. This approach works reasonably well for organizations that have a well-defined product that is homogeneous across companies and over time: for example, kilowatthours generated or sold, tons of steel, or barrels of crude oil. As products increase in complexity, this approach gradually breaks down. Tons of semiconductors, for example, is a meaningless measure of output.

The alternative measures of reductions have their advantages and disadvantages. Basic reference cases are objective and relatively easily verifiable. On the other hand, absolute reductions are often the product of circumstance rather than action, while modified reference cases (which are more difficult to verify) explicitly measure the results of actions. Unit-of-production reference cases are useful only in a limited number of cases, and they can combine some of the disadvantages of both basic and modified reference cases.

Who Owns the Reduction?

Two theories of emissions ownership coexist in the Voluntary Reporting Program. The most intuitive, and commonplace, is called "direct emissions" and "direct reductions." If a reporter owns or uses (e.g., leases) the emission source, that reporter owns the emission as well as any reductions from this source. The advantage of limiting ownership to direct emissions is that it generally prevents multiple ownership of the same emission or reduction. However, this approach excludes many important emission reduction methods, including all activities that tend to reduce electricity consumption, the activities of energy service companies, and the provision of energy-efficient or emission reducing capital goods.

The alternative theory of ownership is based on causation: if an organization causes an emission or reduction, it is responsible for that emission, even if it does not own the emission source. Emissions or reductions from sources not owned by the reporter are referred to as "indirect." The most important example of indirect emissions is those produced through the consumption of electricity. If entities reduce their consumption of

electricity, they cause their electric utility to reduce its emissions. This approach permits reporting of any action that has an influence on national emissions. However, the concept of "causing an emission" is inherently more ambiguous than "owning the smoke stack," and in many cases more than one firm may credibly claim to have helped cause an emission reduction.

EIA requires that reporters using Form EIA-1605 explicitly identify all emissions and reductions as either direct or indirect so that potentially double-counted reductions can be identified.

Would the Reduction Have Happened Anyway?

This issue is often discussed in other contexts under the term "additionality." It has been suggested that many emission reduction projects do not represent "real" reductions, because they would have been undertaken "anyway" in the normal course of business; however, creating an operational definition of additionality is difficult, because the "normal course of business" is a hypothetical concept. For the purposes of voluntary reporting—which include publicizing the types of actions that limit national greenhouse gas emissions and providing recognition for the companies that undertake those actions voluntarily—determining the additionality of projects is unnecessary. For the purposes of a credit for early reduction program, however, additionality is an issue that needs to be considered.

How Does One Verify Reports?

The Department of Energy decided not to require verification by an independent third party after considering this issue during the development of the guidelines for the Voluntary Reporting Program. However, reporters must certify the accuracy of their 1605(b) reports. Also, filing a false statement on a U.S. Government form is illegal. EIA reviews each report received for comprehensiveness, arithmetic accuracy, internal consistency, and plausibility and makes suggestions for improving the accuracy and clarity of reports; however, the reporter is ultimately responsible for the accuracy of any report submitted to the Voluntary Reporting Program.

In general, reports submitted to EIA are factually accurate. Meaningful verification of the accuracy of 1605(b) reporting would require putting in place common baselines and accounting standards that dictate what information should be included in 1605(b) reports and how estimates of greenhouse gas emissions and reductions and carbon sequestration should be calculated. For example, if the accounting treatment for indirect emissions from electricity purchases is undefined, then a particular set of facts about a reporter could result in two different estimates of emissions: one including electricity purchases and one excluding electricity purchases. A third-party verifier can verify the facts about the reporter but cannot determine whether or not indirect emissions from electricity purchases ought to be included and, consequently, cannot determine whether the total emissions reported are correct or not.

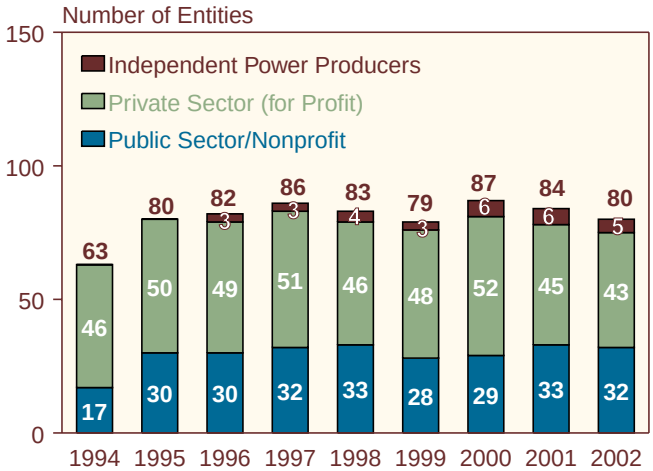
2. Reducing Emissions from Electric Power

Electric Power Industry

The electric power industry emitted approximately 2,249 million metric tons of carbon dioxide in 2002, 39.3 percent of total U.S. carbon dioxide emissions.[20] Carbon dioxide emissions result from the combustion of fossil fuels—coal, oil, and natural gas—during electricity generation. For example, coal, which accounted for 83.4 percent of electric power industry carbon dioxide emissions in 2002, is the primary energy source for U.S. electricity generation (providing 50 percent of total generation in 2002) and has the highest rate of carbon dioxide emissions per unit of energy used among fossil fuels.[21]

Since 1990, carbon dioxide emissions from the electric power industry have increased by 453 million metric tons or 25.3 percent, a trend that reflects U.S. economic growth (GDP grew by about 40 percent between 1990 and 2002) and corresponding increases in fossil energy consumption in the electric power sector. In 2002, following a decrease in emissions in 2001, carbon dioxide emissions from the electric power industry increased by 1.0 percent. Contributing to the increase in emissions in 2002 were a 2.7-percent increase in total electricity generation and a 2.2-percent increase in emissions from coal-fired generation. Growth in the sector's total carbon dioxide emissions (1.0 percent) was less than the growth in total electricity generation (2.7 percent) because of an increase in the use of low-carbon fuels, including a 3.4-percent increase in natural-gas-fired generation.

Figure 4. Number of Electric Power Reporters Reporting on Form EIA-1605, by Entity Type, Data Years 1994-2002



Source: Energy Information Administration, Form EIA-1605.

Projects Reported

For the 2002 reporting year, a total of 80 electric power providers reported to the Voluntary Reporting Program on Form EIA-1605 (Figure 4). This is a decrease from the peak of 87 electric power providers reporting on the long form in 2000 but a 27-percent increase from the 63 reporters for the first reporting year, 1994. Since 1997, merger activity in the electric power industry as a result of deregulation has reduced the pool of electric utilities able to report to the Voluntary Reporting Program.[22]

Electric power providers make up 58 percent of the total 137 project-level reporters for data year 2002. Thirty-two of the electric power industry reporters were public sector or nonprofit organizations, including electric cooperatives, municipal utilities, and other public-sector entities such as the Tennessee Valley Authority (TVA). Forty-three entities were private-sector organizations, mostly investor-owned utilities (IOUs). Five independent power producers (IPPs) reported to the program for 2002.

The 418 electric power projects reported for 2002 (Figure 5) represent a 7-percent decrease from the 2001 reporting year total of 391 but still a 120-percent increase from the 190 projects reported for 1994. Electric power projects were the most numerous project type reported to the Voluntary Reporting Program, accounting for 24 percent of all projects reported for 2002.

Electric power projects are reported in two categories: (1) carbon content reduction; and (2) increasing energy efficiency in generation, transmission, and distribution. Carbon content reduction projects include availability

[20]Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), web site www.eia.doe.gov/oiaf/1605/1605a.html.

[21]Energy Information Administration, *Voluntary Reporting of Greenhouse Gases, Instructions for Form EIA-1605*, DOE/EIA-1605(2003) (Washington, DC, March 2003), Appendix B, web site ftp://ftp.eia.doe.gov/pub/oiaf/1605/cdrom/pdf/1605INST02.pdf.

[22]There were 141 operating electric utilities in the United States in 2000, compared with 172 in 1992. See Energy Information Administration, *The Changing Structure of the Electric Power Inudstry 2000: An Update*, DOE/EIA-0562(00) (Washington, DC, October 2000), web site www.eia.doe.gov/cneaf/electricity/chg_stru_update/update2000.html.

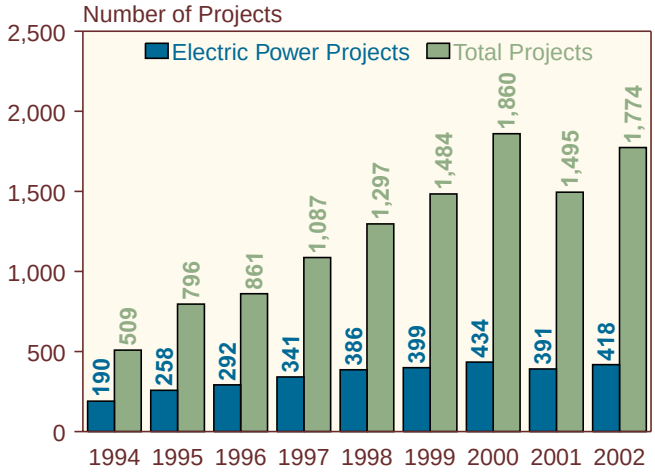
improvements, fuel switching, and increases in lower emitting capacity. Increased efficiency through generation, transmission, and distribution projects includes such activities as heat rate improvements, cogeneration and waste heat recovery, high-efficiency transformers, and reductions in line losses associated with electricity transmission and distribution. A total of 215 projects for increased energy efficiency in generation, transmission, and distribution were reported for 2002, and 230 carbon content reduction projects were reported.[23]

Reductions Reported

In 2002, total reported emission reductions from 418 electric power projects (Table 9) included 163.1 million metric tons carbon dioxide equivalent from direct sources and 15.2 million metric tons from indirect sources. The 230 projects in the category "reducing carbon content" reported emission reductions of 151.6 million metric tons carbon dioxide equivalent from direct sources and 11.2 million metric tons from indirect sources. The 215 projects included in the category "increasing energy efficiency in generation, transmission, and distribution" reported emission reductions of 15.6 million metric tons carbon dioxide equivalent from direct sources and 4.1 million metric tons from indirect sources.

Many of the largest projects reported to the Voluntary Reporting Program are electric power projects. In 2002, 27 electric power projects reported direct reductions of 1 million metric tons carbon dioxide equivalent or more, representing 57 percent of all the projects that reported direct emission reductions exceeding 1 million metric tons carbon dioxide equivalent. About two-thirds of the

Figure 5. Electric Power Projects and Total Projects Reported on Form EIA-1605, Data Years 1994-2002



Source: Energy Information Administration, Form EIA-1605.

Table 9. Number of Electric Power Projects and Emission Reductions Reported on Form EIA-1605 by Project Type and Reduction Type, Data Year 2002

Reduction Objective and Project Type	Number of Projects Reported	Emission Reductions Reported (Metric Tons Carbon Dioxide Equivalent)	
		Direct	Indirect
Reducing Carbon Content	**230**	**151,577,995**	**11,217,841**
Availability Improvements	43	76,129,757	6,100,165
Fuel Switching	47	13,795,778	18,192
Increases in Lower Emitting Capacity	103	65,972,211	5,986,818
Other Carbon Reductions	51	26,453,871	1,181,612
Increasing Energy Efficiency	**215**	**15,621,024**	**4,118,286**
Generation	*157*	*11,615,131*	*3,841,318*
Efficiency Improvements	137	10,517,537	514,261
Cogeneration and Waste Heat Recovery	20	1,097,595	3,327,057
Transmission and Distribution	*59*	*4,000,044*	*276,967*
High-Efficiency Transformers	28	1,794,387	220,657
Reconductoring	27	1,751,172	227,802
Distribution Voltage Upgrades	28	2,517,760	175,138
Other Transmission and Distribution	12	1,725,893	74,750
Total Electric Power Projects	**418**	**163,110,512**	**15,224,987**

Note: Project totals may not equal sum of components because some projects may be counted in more than one category.
Source: Energy Information Administration, Form EIA-1605.

[23]More than one project type may be assigned to a single project; therefore, the sums of projects and reductions by project type category may exceed the total numbers of projects and the total reductions reported.

reported electric power projects were related to nuclear power.

Reducing the Carbon Content of Energy Sources

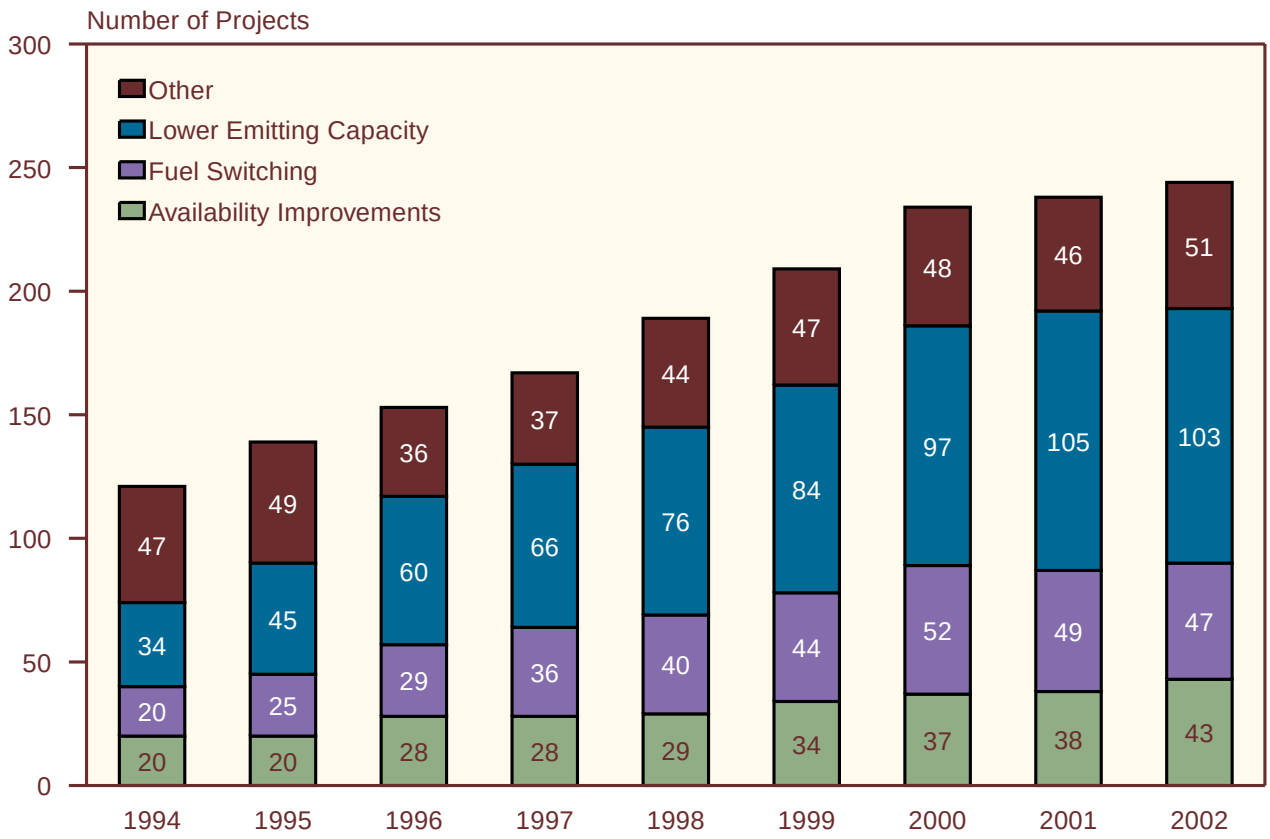
Projects involving fuel switching, power plant availability improvements, increases in low- or zero-emitting generation capacity, and other similar activities typically reduce the amount of carbon consumed to generate a unit of electricity. A total of 230 such projects, including some of the largest projects reported to the Voluntary Reporting Program, were reported for 2002 (Figure 6). The emission reductions reported for "carbon content reduction" electric power projects in 2002 totaled 151.6 million metric tons carbon dioxide equivalent from direct sources and 11.2 million metric tons from indirect sources. Some carbon content reduction projects are in fact "hybrids," combining efficiency improvements with measures such as availability improvements or increases in low-emitting capacity (see box on page 24).

Availability Improvements

By increasing generation from lower emitting power plants, availability improvement projects provide a commensurate reduction in the amount of generation supplied by higher emitting plants. The number of availability improvement projects reported for 2002 was 43—5 more than the 38 reported for 2001 and 23 more than the 20 reported for 1994. Availability improvement projects accounted for reported emission reductions in 2002 totaling 76.1 million metric tons carbon dioxide equivalent from direct sources and 6.1 million metric tons from indirect sources. As for previous reporting years, availability improvement projects, especially those undertaken at nuclear facilities, produced some of the largest reported reductions in carbon dioxide emissions. Of the 43 availability improvement projects reported, more than one-half involved nuclear power plants. Mainly through significant advances in operating, maintenance, and refueling procedures, capacity factors at nuclear plants were increased, displacing some fossil-fuel-based power generation.

Because nuclear power plants are invariably large baseload facilities, even a fairly small improvement in plant availability can lead to a sizable reduction in fossil fuel consumption. For example, Exelon Corporation reported a new project for 2002, "Rerate of Quad Cities Unit 2." In March 2002 this project added 110 megawatts

Figure 6. Electric Power Projects Reported on Form EIA-1605 Reducing the Carbon Content of Energy Sources, by Project Type, Data Years 1994-2002



Note: The sum of projects in many project categories exceeds the total number of projects reported, because more than one project type may be assigned to a single project.

Source: Energy Information Administration, Form EIA-1605.

to Quad Cities Unit 2 with an extended power rerate project. The project increased the generating capabilities of the unit, enabling it to produce additional baseload power to the Illinois grid. The increase, which resulted from an increase in the station's availability, meant that less electricity was generated at coal-fired generating facilities. The net result was a reduction in Exelon's annual carbon dioxide emissions below what they would have been had generation from the Quad Cities nuclear plant not increased. For 2002, Exelon reported that 327,077 megawatthours of generation that would have come from bituminous coal was instead generated from nuclear power as a result of the project, reducing the company's carbon dioxide emissions by 241,826 metric tons.

Fuel Switching

Forty-seven fuel-switching projects were reported for 2002, 2 less than the 49 reported for 2001 and 27 more than the 20 reported for 1994. Switching from coal or oil to natural gas lowers carbon dioxide emissions because of the lower carbon content of natural gas relative to other fossil fuels. For example, switching from bituminous coal to natural gas can reduce carbon dioxide emissions per unit of energy consumed by approximately 43 percent. Although other reported actions, such as switching from oil to gas, may not lead to reductions of the same magnitude, they also reduce greenhouse gas emissions. The fuel-switching projects reported for 2002 accounted for emission reductions totaling 13.8 million metric tons carbon dioxide equivalent from direct sources and 0.02 million metric tons from indirect sources.

An example of a fuel-switching project is a repowering project to increase the use of natural gas and waste heat, reported by South Carolina Electric and Gas Company. In early 2000, the company gained approval for a project to replace two 1950s-vintage coal-fired boilers with two combustion turbines using natural gas in combined-cycle mode. As a result, waste heat from exhaust gases will be used to provide additional steam to the generator's turbines, increasing the plant's total output. The project increased the plant's capacity by more than 300 megawatts while reducing its output of airborne emissions and solid waste. In 2002 the project reportedly displaced 239,447 tons of coal, reducing carbon dioxide emissions by 267,251 metric tons.

Increases in Lower Emitting Capacity

Projects involving the construction of new, lower emitting power plants or increases in the capacity of existing lower emitting plants were among the most numerous electricity supply projects reported. A total of 103 such projects were reported for 2002, down from 105 reported for 2001 but up from the 34 reported for 1994. Most of the projects reported for 2002 involved increases in nuclear (23 projects), hydropower (22 projects), photovoltaic (15 projects), natural gas (8 projects)and wind capacity (32 projects). Emission reductions reported for increases in low-emitting capacity projects in 2002 totaled 66.0 million metric tons carbon dioxide equivalent from direct sources and 6.0 million metric tons from indirect sources.

Electricity Supply Carbon Reduction Projects: Definitions and Terminology

The combustion of fossil fuels to produce heat for electricity generation causes greenhouse gas emissions. In addition to substantial releases of carbon dioxide, fossil fuel combustion also emits small quantities of methane and nitrous oxide. Carbon content reduction projects typically reduce greenhouse gas emissions by replacing higher emitting fuels (such as coal) with lower emitting fuels (such as natural gas) or non-emitting energy sources (such as nuclear power or renewables). Projects that reduce the carbon content of electricity supply include the following.

Availability Improvements. By reducing the frequency and length of planned and unplanned power plant outages, availability improvement projects can result in increased use of the affected plant. This is particularly true if the plant is a *baseload* plant (i.e., a plant that is generally used on an around-the-clock basis except during plant outages), but it may hold true for other types of plants as well. If the resulting increase in generation from the affected plant displaces generation that otherwise would have been produced by a higher emitting plant, emission reductions will result. Power plant utilization is measured by the plant's *capacity factor*, defined as the ratio of the average load on the plant over a given period to its total capacity. For example, if a 200-megawatt plant operates (on average) at 75 percent of its rated capacity (i.e., at a load of 150 megawatts) over a period of a year, the plant's capacity factor is 75 percent for that year.

Fuel Switching. The amount of carbon contained in fossil fuels and released in the form of carbon dioxide during combustion varies, depending on the type of fuel. Thus, carbon dioxide emissions from a power plant can be reduced by switching from a higher emitting fuel (such as coal) to a lower emitting fuel (such as natural gas).

Increases in Lower Emitting Capacity. By increasing the capacity of an existing lower emitting or non-emitting plant (e.g., a hydroelectric plant), or by constructing new generating capacity (e.g., wind turbines), a utility can reduce or avoid reliance on higher emitting plants. The result will be a reduction in greenhouse gas emissions from the displaced plants.

National Grid USA reported on a project using electricity from the Cowley Ridge Windplant to displace generation from fossil fuels. National Grid owns 50 percent of Canadian Niagara, which owned 100 percent of the Cowley Ridge Windplant project from 1995 to 1999. TransAlta Corporation also buys electricity from the Cowley Ridge plant. Although National Grid has not reported reductions associated with the project since 1999, the Cowley Ridge Windplant is still in operation. It is an 18.9-megawatt independent power plant that consists of 52 Kenetech Model 33M-VS wind turbines rated between 300 and 405 kilowatts. Through 1999, generation from Cowley Ridge has resulted in total emissions reductions of almost 236,000 metric tons carbon dioxide equivalent. National Grid reported 25 percent of the total reductions through 1999 due to multiple claims on the reductions. In addition, National Grid is supporting the development of 6.6 megawatts of wind capacity in western New York State, in a project being conducted with the New York State Energy Research and Development Authority. No emissions data were reported for the project for 2002, but they may be in the future.

Other Carbon Reduction Projects

Fifty-one "other carbon reduction" projects were reported for 2002, 5 more than reported for 2001 and 4 more than reported for 1994. This category of "other" projects includes projects that decrease high-emitting capacity, make dispatching changes only, or increase power purchases from low- or zero- emitting capacity. In 2002, 27 projects used low- or zero-emitting power purchases to reduce emissions. This category was added to the Voluntary Reporting Program in 1999 to classify electric power producer/supplier purchases of power from low- or zero-emitting generation sources for resale, replacing generation or purchases of power from more carbon-intensive generation sources. Another 3 projects reported for 2002 involved decreases in higher emitting capacity, and 2 involved changes in the dispatching of power plants. Changes in dispatch order can reduce carbon dioxide emissions if lower emitting plants are used more frequently. For 2002, reported emission reductions from "other carbon reduction" projects totaled 26.5 million metric tons carbon dioxide equivalent from direct sources. An emissions increase of 1.2 million metric tons carbon dioxide equivalent was reported from indirect sources.

An example of a "dispatching changes only" project is the "Merger Dispatch Savings" project reported by Cinergy. Emission reductions were achieved through the economic dispatch of Cinergy's generating facilities. Before the merger of the Cincinnati Gas & Electric Company and PSI Energy, the same generating facilities were dispatched according to the demands of each operating company. After the merger, the units from both operating companies were operated and dispatched as if a single company owned them. This method of operation and economic dispatch is estimated to provide a 1-percent efficiency gain in the operation of the system. The efficiency gain is realized because the more recently built generating units, which are the most efficient units, are the first dispatched to meet customer demands for electricity. Therefore, the most efficient generating units are operating more than the older, less efficient units. In 2002, Cinergy reported a decrease in energy consumption of 273,630 short tons of bituminous coal and direct reductions of 654,094 metric tons of carbon dioxide emissions.

In a new project reported for 2002, Minnesota Power's Wind Sense Wind Energy Program allows customers to choose to have some or all of their electricity come from wind plants. Minnesota Power has committed to purchase one-half of the generation from a 1.98-megawatt wind energy facility in Murray County, Minnesota, under a power purchase agreement. Minnesota Power is procuring the wind energy under agreement with Great River Energy, which in turn has a purchase agreement with Moulton Wind Power Partners, LLC, and enXco, Inc. Minnesota Power is purchasing a full 50-percent share of the wind generation from the three-turbine facility and selling the power to its customers in blocks of 100 kilowatthours. When the purchased wind energy is fully subscribed, additional power purchase agreements will be established to meet demand. In 2002, about one-half of the wind energy purchased by Minnesota Power was subscribed, and the balance was delivered to its system service. The wind energy was reported to have displaced coal-fired generation from the Minnesota Power system. Emission reductions were calculated by multiplying the megawatthours of wind energy delivered by the average carbon dioxide emission rate per megawatthour for Minnesota Power's coal-fired power plants. The total reduction reported for the program in 2002 was 3,800 metric tons carbon dioxide equivalent.

Increasing Energy Efficiency in Electricity Production and Distribution

Projects involving improvements in the efficiency of electricity generation, transmission, and distribution were more numerous than the other electric power projects reported for 2002 but produced smaller emission reductions on average. Efficiency improvement tends to be an ongoing effort by electricity suppliers, yielding a continuous stream of small, incremental improvements rather than one-time dramatic increases in efficiency. For example, heat rate improvement projects often are undertaken in response to normal plant deterioration. As power plants age, efficiency tends to erode gradually. Operators seek to maintain heat rates by replacing

or refurbishing old, worn-out equipment. Similarly, new energy-efficient transformers are often installed gradually over a period of years, as old transformers fail.

A total of 215 "increasing energy efficiency" projects were reported for 2002, including some hybrid projects that combined efficiency improvements with measures such as availability improvements. The efficiency improvement projects fall into two main categories: (1) generation, involving efficiency improvements in the conversion of fossil fuels and other energy sources into electricity; and (2) transmission and distribution, involving improvements in the delivery of electricity from the power plant to the end user (see box on page 28).

Generation Projects

Efficiency Improvements. Improvements in generating efficiency were the most numerous type of efficiency project reported for 2002. A total of 137 such projects were undertaken in 2003. Heat rate improvements at coal-fired power plants are a commonly reported means of increasing efficiency and reducing carbon dioxide emissions. There are numerous opportunities for improving efficiency at existing power plants, but the efficiency gains, and hence reductions in fuel consumption and emissions, are limited by technology and tend to be small. Emission reductions reported for generation efficiency improvement projects in 2002 totaled 10.5 million metric tons carbon dioxide equivalent from direct sources and 0.5 million metric tons from indirect sources.

For 2002, Allegheny Energy reported efficiency improvements at three boiler units as a result of control system upgrades. A boiler control system determines the response actions by various boiler components to changes in demand, fuel quality, and ambient conditions. How quickly and precisely a control system responds ultimately affects the completeness of combustion and the efficiency of the process. The original designs of older units used pneumatic controls or analog electronics, which by today's standards are slow to respond. The boiler control systems for the three units were replaced with distributed digital electronic systems, which generally are believed to improve heat rate by 0.5 percent. Additional benefits are obtained through improved data acquisition and performance monitoring, which could yield an additional 0.5 percent. In 2002, the 1-percent improvement in heat rate efficiency for the three boilers led to a reported decrease of almost 44,000 tons of coal use and emission reductions totaling 100,519 metric tons carbon dioxide equivalent.

Dynegy Midwest Generation, Inc., reported a new project for 2002, "Hennepin Feedwater Heater Orifice Replacements." This project involved replacing feedwater heater vent orifices that had eroded over time. The eroded orifices permitted an excessive amount of steam to escape the heat exchanger without condensing and transferring any of its heat to the feedwater. Replacements were completed on all feedwater heaters at Hennepin unit 1 in 2002 and are planned for unit 2 in 2004. Dynegy Midwest reported a reduction of 4,248 million Btu of subbitminous coal use in 2002 as a result of the project, resulting in direct a reduction of 410 metric tons of carbon dioxide emissions.

Cogeneration and Waste Heat Recovery. A total of 20 cogeneration and waste heat recovery projects were reported for 2002, as compared with 4 projects reported for 1994. Emission reductions reported for cogeneration and waste heat recovery projects in 2001 were, on average, larger than those reported for any of the other types of efficiency improvement projects but less than the average for carbon content reduction projects. Industrial partners in the cogeneration projects reported for 2002 include a greenhouse, steel mills, and a heating plant in the Czech Republic. Reported end uses of the thermal energy include electricity generation, process heat applications, space heating and cooling, and cooking. The emission reductions reported for cogeneration and waste heat recovery projects in 2002 totaled 1.1 million metric tons carbon dioxide equivalent from direct sources and 3.3 million metric tons from indirect sources.

Texas Genco, LP, owns and operates the 162-megawatt San Jacinto Steam Electric Generating Station, which includes two combustion turbines with heat recovery steam generators. The San Jacinto Station improves the overall generating efficiency of the Texas Genco system and lowers its carbon dioxide emission rate. San Jacinto also provides process steam to an adjacent DuPont facility, replacing three older, less efficient natural-gas-fired boilers previously used for that purpose. In 2002, Texas Genco reported both direct and indirect emission reductions from the project, because the San Jacinto Station improved not only Texas Genco's system generating efficiency but DuPont's as well. Direct reductions in 2002 reportedly totaled 135,171 metric tons carbon dioxide equivalent and an indirect reductions totaled 437,263 metric tons carbon dioxide equivalent.

PEI Power Corporation reported a cogeneration project in which waste process heat was used for electricity generation, industrial process heat, and heating, cooling, and ventilation. During 1998, PEI Power began operating a new cogeneration facility capable of firing landfill gas, as well as pipeline natural gas as a supplement. The boiler produces steam that powers a steam turbine to produce electricity. After the steam goes through the three stages, the end product is used to produce hot water that heats an adjacent greenhouse. Also, steam comes off the first extraction and goes to a plastic

manufacturer for process use. Carbon dioxide reductions result from several factors. First, the landfill gas (methane) that is used as fuel is captured and combusted instead of being allowed to escape into the atmosphere. Second, the gas-fired generation, with lower carbon content, displaces coal-fired generation. Third, steam from the facility eliminates the need for the greenhouse to obtain heat from less efficient, higher emitting sources. Fourth, the steam sent to the plastic manufacturer eliminates the need to generate process heat from higher emitting sources. No reductions were reported for 2002, but for 2001 this project reportedly resulted in direct emission reductions of 628 metric tons carbon dioxide equivalent and indirect emission reductions of 36,169 metric tons carbon dioxide equivalent.

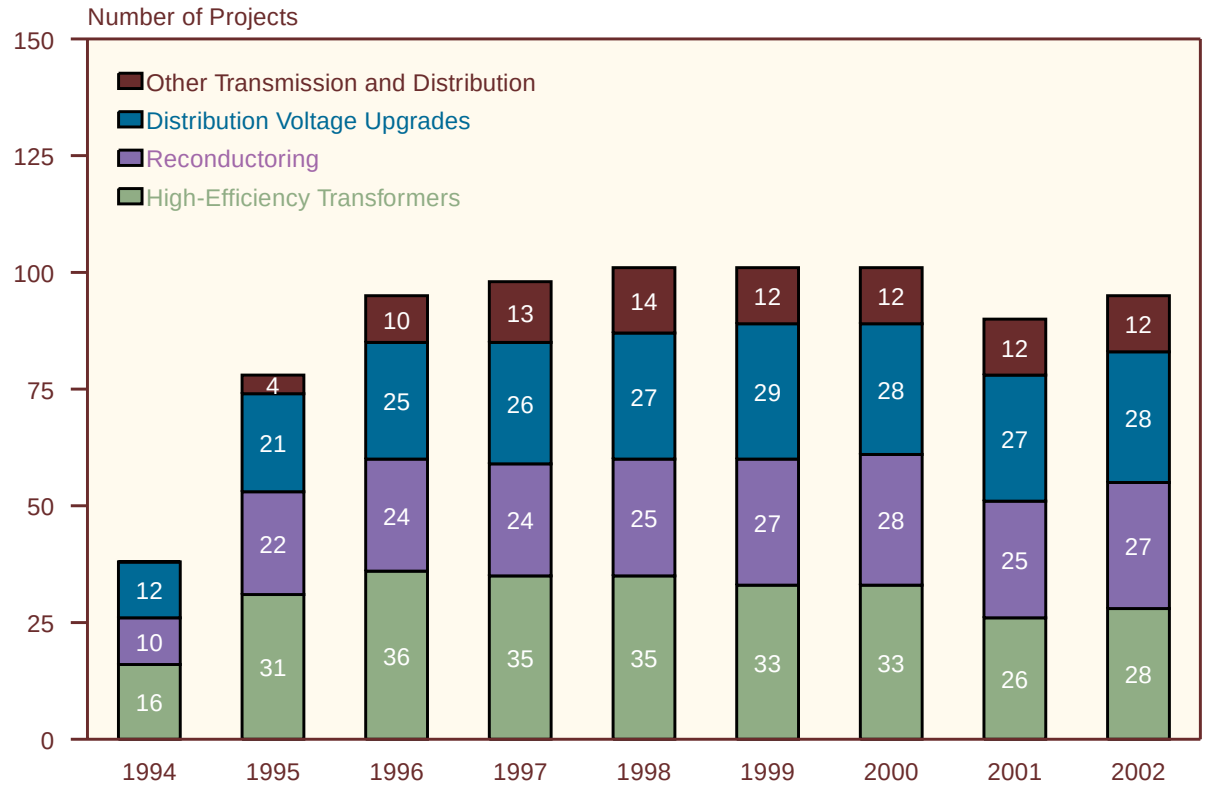
Transmission and Distribution Projects

Transmission and distribution projects, although not as numerous as generation projects, were nonetheless reported in significant numbers. For 2002, 59 transmission and distribution projects were reported. Unlike generation projects, which typically have discrete start and completion dates, efforts such as upgrading conductors and replacing transformers are ongoing activities by electric power producers. Consequently, most of the transmission and distribution efficiency improvements reported for 2002 were reported as continuations of long-standing projects rather than as new projects.

In terms of average emission reductions, transmission and distribution projects typically are somewhat smaller than generation projects. There are numerous opportunities for improving efficiencies in the delivery of electricity, but the magnitude of the efficiency gains that can be realized is limited.

For 2002, the most frequently reported types of transmission and distribution projects (Figure 7) were high-efficiency transformers (including improved silicon steel and amorphous core transformers); reconductoring (replacing existing conductors with large-diameter conductors to reduce line losses); and distribution voltage upgrades (increasing the voltage at which the various segments of the system operate to reduce line losses). The other transmission and distribution project category includes projects that involve more than one type of activity, as well as such activities as transmission line improvements and capacitor installations. A total of 28 high-efficiency transformer projects were reported for 2002, 2 more than the 26 reported for 2001 and 12

Figure 7. Reported Transmission and Distribution Projects Reported on Form EIA-1605 by Type, Data Years 1994-2002



Note: The sum of projects in many project categories exceeds the total number of projects reported, because more than one project type may be assigned to a single project.

Source: Energy Information Administration, Form EIA-1605.

more than the 16 reported for 1994. Many of the reported projects were "hybrid" projects, combining high-efficiency transformer installation with one or more other transmission and distribution activities (e.g., reconductoring).

Another 27 projects involving reconductoring and 28 projects involving distribution voltage upgrades (again, often in combination with other activities) were reported for 2002, both slightly higher than the numbers reported in the same categories for 2001. The reporters

Efficiency Projects: Definitions and Terminology

Generation Projects

It is neither theoretically nor practically possible to convert all the thermal or other energy produced in, or consumed by, a power plant into electrical energy. In fact, much of the energy is lost rather than converted. Typically, U.S. steam-electric generating plants operate at efficiencies of about 33 percent, meaning that two-thirds of the thermal energy produced is lost. Some more advanced power plants have higher efficiencies, but even new combined-cycle plants (in which the waste heat from a gas turbine is recovered to produce steam to drive a turbine) typically have efficiencies of only 50 to 60 percent. Generation projects seek to improve power plant efficiencies either by reducing the amount of energy lost during the conversion process or by recovering the lost energy for subsequent application.

Efficiency Improvements. By increasing the efficiency of the generation process, efficiency improvement projects at fossil-fuel-fired power plants reduce the plants' *heat rate*, defined as the amount of fossil energy (measured in Btu) needed to produce each kilowatthour of electricity. The result is a reduction in the amount of fuel that must be burned to meet generation requirements, and hence a reduction in carbon dioxide (and other greenhouse gas) emissions. Efficiency improvements at nonfossil (e.g., hydroelectric) power plants can also reduce greenhouse gas emissions. Emission reductions occur if the efficiency improvement leads to an increase in the amount of electricity generated by the affected plant, with a consequent reduction in the amount of electricity that must be generated by other (fossil fuel) plants to meet demand.

Cogeneration. Only a portion of the heat generated during the combustion of fossil fuels can be converted into electrical energy; the remainder is generally lost. Cogeneration involves the recovery of thermal energy for use in subsequent applications. Cogeneration facilities typically employ either topping or bottoming cycles. In a *topping cycle*, thermal energy is first used to produce electricity and then recovered for subsequent applications. Topping cycles are widely used in industry as well as utility power plants that sell electricity and steam to customers. In a *bottoming cycle*, the thermal energy is first used to provide process heat, from which waste heat is subsequently recovered to generate electricity. Bottoming cycle applications are less common, usually associated with high-temperature industrial processes. Because cogeneration involves the recovery and use of thermal energy that would otherwise be wasted, it reduces the amount of fossil fuel that must be burned to meet electrical and thermal energy requirements, hence reducing greenhouse gas emissions.

Transmission and Distribution Projects

The purpose of the electricity transmission and distribution system is to deliver electrical energy from the power plant to the end user. Resistance to the flow of electrical current in cables, transformers, and other components of the transmission and distribution system causes a portion of the energy (typically about 7 percent) to be lost in the form of heat. Improving the efficiency of the various system components can decrease such line losses, reducing the amount of generation required to meet end-use demand and, thus, power plant fossil fuel consumption and greenhouse gas emissions.

High-Efficiency Transformers. Transformers, used to change the voltage between different segments of the transmission and distribution system, are a source of system losses. Transformer losses occur as a result of impedance to the flow of current in the transformer windings and because of hysteresis and eddy currents in the steel core of the transformer. When existing transformers are replaced with high-efficiency transformers (including improved silicon steel transformers and amorphous core transformers), losses are reduced.

Reconductoring. Like transformers, conductors (including feeders and transmission lines) are a source of transmission and distribution system losses. In general, the smaller the diameter of the conductor, the greater its resistance to the flow of electric current and the greater the consequent line losses due to heating. Reconductoring involves the replacement of existing conductors with larger diameter conductors.

Distribution Voltage Upgrades. Line losses are dependent, in part, on the voltage at which the various segments of the transmission and distribution system operate. Upgrading the voltage of any segment can reduce line losses.

classified 12 projects as "general" or "other" transmission and distribution, the same number as reported for 2001. Emission reductions reported for transmission and distribution projects in 2002 totaled 4.0 million metric tons carbon dioxide equivalent from direct sources and 0.3 million metric tons from indirect sources.

National Grid USA reported four new transmission and distribution projects in 2002. One of the new projects made improvements in the efficiency of the company's electricity transmission and distribution system to reduce the amount of energy "lost" between the point of generation and the point of end use. A decrease in energy losses leads to a reduction in generation (to meet the same end-use demands), which in turn reduces greenhouse gas emissions. Over the past several years National Grid USA has been installing high-efficiency transformers to improve the efficiency of its transmission and distribution system. Higher efficiency transformers provide a significant potential for reducing greenhouse gas emissions because of the large number of transformers in use throughout electricity systems. Certain types of transformer energy losses can be reduced by using a transformer with a core made of a metal that offers less magnetic resistance. In amorphous metal core transformers, the standard silicon steel of the transformer is replaced with amorphous steel, which increase the transformers' efficiency by up to 70 percent. Since 1993, National Grid has installed about 2,400 amorphous metal core transformers in place of standard transformers. For 2002, this project reportedly reduced electricity consumption by 3,459 megawatthours, resulting in emission reductions of 1,346 metric tons carbon dioxide equivalent.

In an ongoing project, Public Utility District No. 1 of Snohomish County has networked and reconductored portions of its transmission system, reducing electrical power losses by approximately 1 megawatt during winter peak load conditions. From August through December, when the region depends on imports of electricity from nonhydroelectric sources, the project has resulted in electrical savings of approximately 3,118 megawatthours in 2002, leading to emission reductions of 1,776 metric tons carbon dioxide equivalent.

3. Reducing Emissions from Energy End Use

Introduction

Greenhouse gas emissions from energy end use include emissions from the industrial, commercial, residential, and transportation sectors. In 2002, the transportation sector accounted for 1,850 million metric tons carbon dioxide, nearly all from mobile sources, and represented approximately 32 percent of U.S. carbon dioxide emissions. The industrial, commercial, and residential sectors combined generated the balance of U.S. carbon dioxide emissions, accounting for 3,880 million metric tons carbon dioxide, nearly all from stationary sources (Figure 8). Emissions from stationary sources are produced both directly by the combustion of fossil fuels (e.g., natural gas consumption for home heating) and indirectly from the consumption of electricity (e.g., for commercial lighting).

Reducing Emissions from Stationary Sources

Energy use at stationary sources in the industrial, commercial, and residential sectors accounted for emissions of 3,880 million metric tons carbon dioxide in 2002—two-thirds of total U.S. carbon dioxide emissions. Emissions from stationary sources included 2,246 million metric tons carbon dioxide from the generation of electricity that was ultimately consumed in these three sectors. Industry was responsible for the largest share of stationary-source emissions (43 percent), followed by the residential sector (31 percent) and the commercial sector (26 percent).

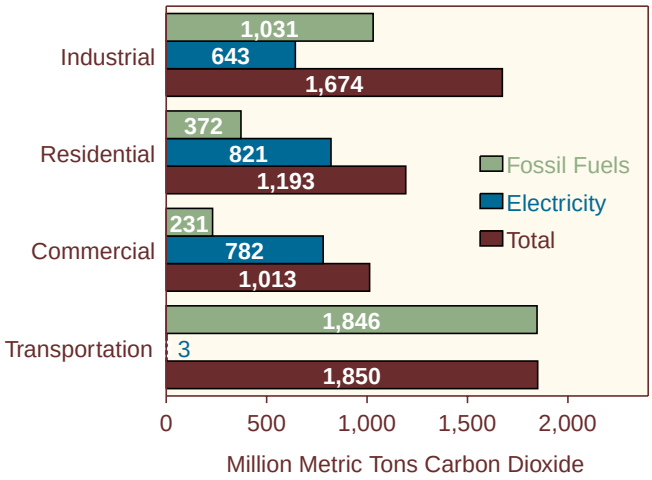
Between 1990 and 2002, carbon dioxide emissions associated with industrial, residential, and commercial energy use increased by 13.5 percent. The commercial sector is the fastest-growing emissions source, registering a 29.9-percent increase in emissions between 1990 and 2002. Emissions from the residential sector increased by 25.5 percent over the same period, while industrial sector emissions declined by 0.9 percent.[24]

Projects Reported

Reported emission reduction projects affecting stationary sources include fuel switching (e.g., from fuel oil to natural gas); light bulb replacement (e.g., substituting compact fluorescent bulbs for incandescents); heating, ventilation, and air conditioning (HVAC) system upgrades (e.g., maintenance or replacement with more efficient units); and appliance replacement (e.g., retiring old appliances for Energy Star products). For 2002, 62 entities reported 315 energy end-use projects on Form EIA-1605 (Table 10). These 315 projects accounted for 18 percent of all the projects reported on the long form, ranking fourth behind sequestration (23 percent); electricity generation, transmission, and distribution (22 percent); and waste treatment and disposal (20 percent).

Among the 62 entities that reported energy end-use projects for 2002 on Form EIA-1605, 47 (76 percent) were electric utilities, of which 19 were publicly owned, 27 were privately owned, and 1 was an independent power producer. Manufacturers of automobiles and other transportation equipment were represented by 5 reporters (8 percent of end-use reporters). Three pharmaceutical and health care product companies reported energy end-use projects for 2002 (5 percent of end-use reporters). The remaining 11 percent of reporters was made up of 2 cement companies, 2 electronics companies, 1 food and kindred products company, 1 holding and other investment office, and 1 communications company.

Figure 8. Sources of U.S. Carbon Dioxide Emissions by Sector, 2002



Note: The industrial sector includes agriculture; the residential and commercial sectors exclude transportation.

Source: Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003).

[24]Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), web site www.eia.doe.gov/oiaf/1605/1605a.html.

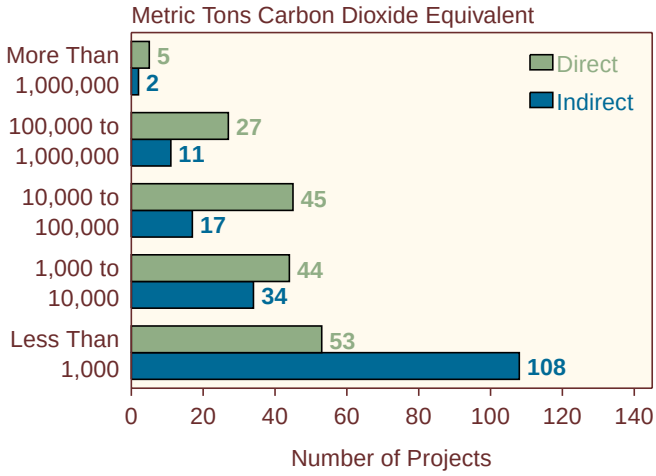
Although both the number of entities reporting and the number of energy end-use projects reported for 2002 were lower than those for 2001, the total reported direct and indirect emission reductions resulting from energy end-use projects increased in 2002 (Table 10). Changes in funding sources for efficiency programs and the transition toward competition in the electricity supply industry may have contributed to the decline in the numbers of entities and projects reported for 2002. For example, EIA reports that some States are now funding demand-side management (DSM) activities through State agencies, such as the California Board for Energy Efficiency, the New York Energy Research and Development Authority, and Efficiency Vermont.[25]

Emission reductions reported for individual energy end-use projects ranged from less than 1 metric ton carbon dioxide equivalent to almost 4.5 million metric tons, primarily because of the flexibility allowed in defining the scope of a project. Some reporters include information on each individual end-use initiative separately, whereas others aggregate information on a range of activities in a single project. For example, an electric utility may report on a DSM project that achieves direct emission reductions through multiple supplemental approaches, such as encouraging their residential, commercial, and industrial customers to change light bulbs, temporally shift electric loads, implement urban forestry projects, and upgrade appliances, building shells, and HVAC systems.

Among projects for which direct emission reductions were reported for 2002, 82 percent had reductions of less than 100,000 metric tons carbon dioxide equivalent (Figure 9). Similarly, among projects for which indirect emission reductions were reported, 92 percent had reductions of less than 100,000 metric tons carbon dioxide equivalent. Only eight energy end-use projects reported emission reductions greater than 1 million metric tons each for 2002 (two more than for 2001).

Nine of the 10 largest projects reported in terms of emission reductions achieved in 2002 were aggregated electric utility DSM programs. DSM projects may focus on one or more load shape objectives (see box on page 34). Although the most common load shape objective of reported DSM projects was increased energy efficiency

Figure 9. Energy End-Use Projects Reported on Form EIA-1605 by Size and Type of Emission Reduction, Data Year 2002



Source: Energy Information Administration, Form EIA-1605.

Table 10. Number of Energy End-Use Reporters, Projects, and Emission Reductions Reported on Form EIA-1605, Data Years 1994-2002

Data Year	Number of Reporters	Number of Projects Reported	Emission Reductions Reported (Metric Tons Carbon Dioxide Equivalent)	
			Direct	Indirect
1994	51	160	9,103,753	1,318,092
1995	63	221	12,450,879	1,591,590
1996	62	214	15,288,497	1,538,196
1997	67	249	16,685,010	3,798,030
1998	79	308	18,282,751	5,026,424
1999	80	330	16,047,912	6,786,832
2000	77	382	19,663,333	8,155,193
2001[(R)]	66	329	19,550,862	7,668,988
2002	62	315	24,558,785	9,040,863

[(R)] Revised data.

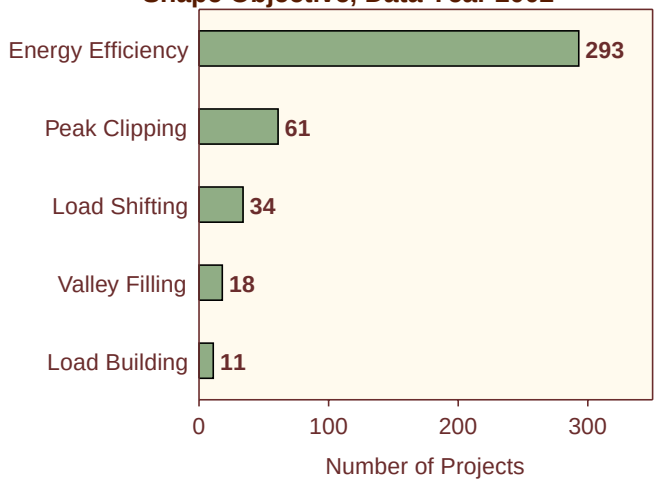
Notes: More than one project type may be assigned to a single project; therefore, the sums of the projects and reductions in each project type category may exceed the total numbers of projects and reductions in the totals and subtotals. Table excludes data from confidential reports.

Source: Energy Information Administration, Form EIA-1605.

[25]Energy Information Administration, "Electric Utility Demand-Side Management 2000" (January 2002), web site www.eia.doe.gov/cneaf/electricity/dsm00/dsm_sum.html.

(293 projects), electric utilities also attempted to balance their load profiles with various other load shape objectives, including peak clipping (61 projects), load shifting (34 projects), valley filling (18 projects), and load building (11 projects) (Figure 10).

Figure 10. Demand-Side Management Projects Reported on Form EIA-1605 by Load Shape Objective, Data Year 2002



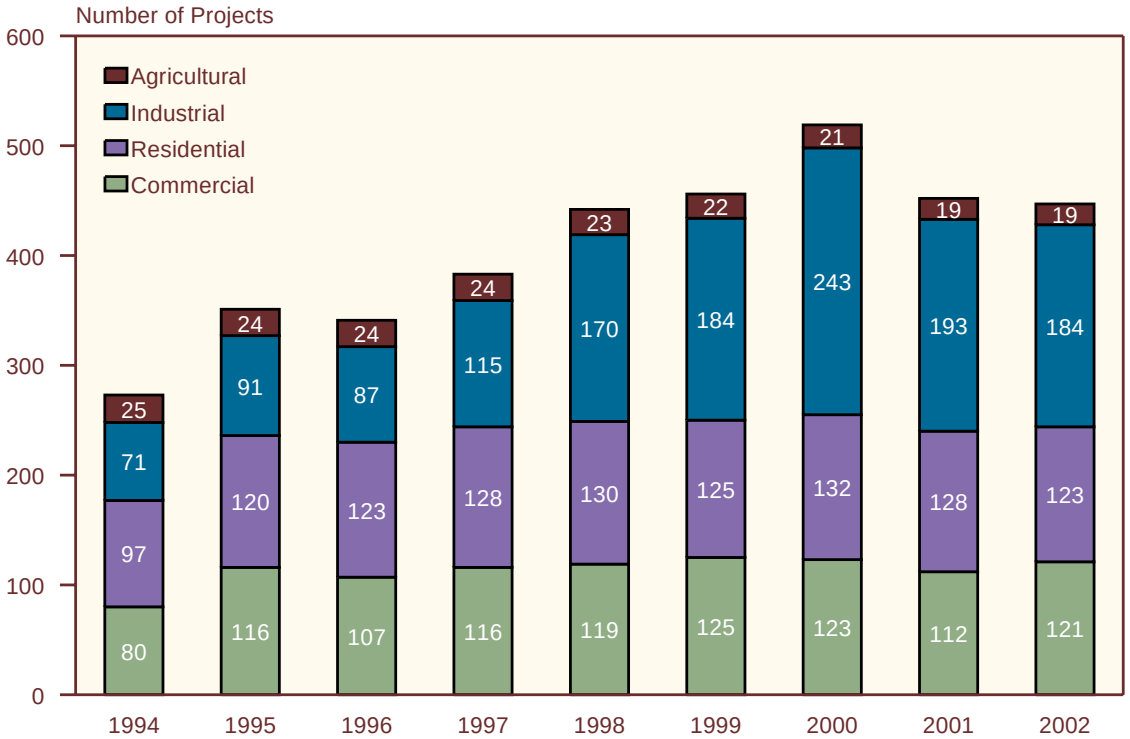
Notes: Some projects may be counted in more than one category. Figure excludes data from confidential reports.
Source: Energy Information Administration, Form EIA-1605.

Energy end-use projects can be carried out anywhere energy is consumed. Reporters indicate whether their energy end-use projects affect emissions in the industrial, commercial, residential, or agricultural sector. For 2002, 184 projects were reported to have reduced emissions in the industrial sector, 122 in the residential sector, 121 in the commercial sector, and 19 in the agricultural sector. Fewer end-use projects were reported for each sector for 2002 than were reported for 2001, except for the commercial sector. The total number of end-use projects reported was 4 percent below the total for 2001 (Figure 11). It should be noted that many projects—particularly utility DSM programs—affect more than one end-use sector and are included in each applicable sector for the purposes of counting types of projects reported.

Project Types

Of the 315 energy end-use projects reported, 33 percent involved two or more project types. The most frequently reported type of energy end-use project for 2002 was lighting and lighting controls, with 141 projects, followed by equipment and appliances (128 projects) and HVAC (109 projects) (Table 11). Because of the varied levels of data aggregation in reports by different entities, it is not possible to calculate average emission reductions by project type or to draw conclusions about the

Figure 11. Energy End-Use Projects Reported on Form EIA-1605 by Sector, Data Years 1994-2002



Notes: Some projects target more than one sector and may be counted in multiple categories. Figure excludes data from confidential reports.
Source: Energy Information Administration, Form EIA-1605.

most effective energy end-use project types in terms of total emission reductions achieved.

Equipment and Appliances

Replacement of equipment and appliances with more energy-efficient units (e.g., Energy Star products) to reduce greenhouse gas emissions are frequently reported energy end-use projects. For 2002, no new reporters to the Voluntary Reporting Program submitted reports on equipment and equipment projects for the first time; however, a number of repeat reporters submitted reports on new equipment and appliance projects. National Grid USA reported a new project for 2002 that encompassed its efforts to reduce residential energy consumption. National Grid's Energy Efficiency and Conservation Program includes a broad range of interactions between the utility and its customers aimed at reducing the customers' use of electricity.

Table 11. Number of Projects and Emission Reductions Reported on Form EIA-1605 for Energy End-Use Projects by Project Type, Data Year 2002

Project Type	Number of Projects Reported	Number of Projects Reporting Emission Reductions			Emission Reductions Reported (Million Metric Tons Carbon Dioxide Equivalent)	
		Direct	Indirect	Both Direct and Indirect	Direct	Indirect
Equipment/Appliances	141	90	85	34	21.2	7.4
Lighting/Lighting Controls	128	85	94	51	16.6	7.6
HVAC	109	77	82	50	20.8	6.3
Building Shell	62	49	32	19	17.0	5.4
Load Control	57	41	32	16	16.1	5.1
Motor/Motor Drive	56	44	35	23	15.4	3.3
Fuel Switching	27	21	15	9	1.5	0.3
Energy Effects of Urban Forestry	19	15	11	7	6.9	1.0
Industrial Power Systems	8	8	2	2	4.9	*
Other[a]	3	4	1	2	*	*
Total	**315**	**174**	**172**	**31**	**23.1**	**7.9**

[a]Includes all projects that cannot meaningfully be included in any of the specific project type categories.
*Less than 0.05 million metric tons.
Note: Project totals and emission reductions do not equal sum of components, because some projects are counted in more than one category.
Source: Energy Information Administration, Form EIA-1605.

Load Shape Effects: Definitions and Terminology

Energy Efficiency. Projects that improve the energy efficiency of specific end-use devices and systems. Such projects usually reduce overall energy consumption, often without regard for the timing of project-induced savings. Generally, energy savings are achieved through the substitution of technically more efficient measures (i.e., equipment, systems, or operating procedures) to produce the same level of end-use service (e.g., lighting or warmth) with less energy use.

Load Building. Projects that increase energy consumption, generally without regard to the timing of the increase. Promotion of residential electric space heating systems and promotion of new industrial electrotechnologies are examples of electricity load-building projects.

Load Shifting. Projects that move energy consumption from one time to another (usually during a single day). For example, water-heater timers typically turn off the units during the daytime (when an electric utility experiences peak demands) and allow the units to operate at night (during the utility's off-peak period).

Peak Clipping. Projects that reduce energy demand at certain critical times, typically when the utility experiences system peaks. These projects generally have only small effects on overall energy use but focus sharply on reducing energy use at critical times. Load-shifting and peak-clipping differ because the former shifts much of the energy use from one time to another, whereas the latter eliminates a load without shifting it to another time period.

Valley Filling. Projects that increase off-peak energy consumption (without necessarily reducing on-peak demands). Replacement of an oil-fired furnace with an electric heat pump is an example of valley filling. Such projects can aim to fill daily or seasonal valleys.

The programs typically are aimed at improving the energy efficiency of appliances and equipment, improving the energy efficiency of new and existing construction, and managing energy demand during peak load periods. The programs began in 1991, but 2002 is the first year for which emission reductions associated with them have been reported. The project reduced electricity use by a reported 625,734 megawatthours in 2002, which led to indirect reductions totaling 269,066 metric tons carbon dioxide equivalent.

FirstEnergy Corporation reported a new project for 2002 that was designed to reduce internal energy consumption. The company's Acetone Catalytic Oxidizer Improvement Project upgraded its existing air control device for acetone tablet coating. The device was retrofitted and tuned up in October 2001, and the system's operating temperature was increased from 300°C to 350°C. This allowed the catalyst bed to reach a self-sustaining reaction for the majority (8 hours) of the 10-hour run time for each batch of tablets coated. As a result, the system requires power for only 2 hours to get the catalyst bed up to temperature, eliminating the need for another 8 hours of power consumption. The resulting reduction in electricity use was 66,693 kilowatthours in 2002, leading to a reduction in emissions of 51 metric tons carbon dioxide equivalent. The reduction associated with the project is small in comparison with those reported for other project types; however, it is significant considering that it was achieved by upgrading a single piece of equipment.

Lighting and Lighting Controls

Lighting and lighting control projects, such as installing compact fluorescent bulbs and occupancy sensor lighting controls, have consistently been popular projects in the Voluntary Reporting Program. The U.S. Environmental Protection Agency (EPA) Green Lights Utility Ally Program promotes cooperation between utilities and the EPA in publicizing the environmental, economic, and quality benefits of energy-efficient lighting technologies. Allegheny Energy Inc. participated in the Green Lights Utility Ally Program in 1993 and 1994 and is still seeing reductions from that effort. The project, reported for the first time for 2002, covered only the emissions reductions attributable to energy-efficient lighting upgrades in facilities leased or owned by Allegheny. This project reportedly reduced the company's overall electricity consumption by 528 megawatthours, resulting in a direct reduction of 541 metric tons carbon dioxide equivalent.

The Estee Lauder Company, which last reported for 1999, reported 11 new lighting and lighting control projects for 2002. All the new projects involved installation of either occupancy motion sensors or new Octron lighting fixtures consisting of Octron fluorescent lamps, solid state ballasts, and specular reflectors. The 11 projects reportedly reduced the company's energy consumption by 4,227 megawatthours, leading to a total reduction in indirect emissions from purchased power of 1,649 metric tons carbon dioxide equivalent.

Heating, Ventilation, and Air Conditioning (HVAC)

HVAC projects involve the reduced use or upgrade of HVAC systems in homes, businesses, offices, or industrial plants. Although there were no new reporters in the HVAC category, several new projects were reported for 2002. In March 2002, Platte River Power Authority introduced a "Cooling Rebate Program" as one of two new DSM programs directed at reducing the rate of growth in summer peak load on the electric system operated by Platte River and four owner cities. Through the program, Platte River provides rebates to residential and commercial customers for the installation of high-efficiency air conditioning equipment with less than 20.8 tons capacity. A $200 rebate is offered for units that meet or exceed a 12.0 seasonal energy efficiency ratio (SEER);[26] $250 per unit is offered for units with a 13.0 SEER or better. Staff from Platte River and supporting consultants work with local HVAC contractors and distributors to promote the program and to encourage proper sizing of units, efficient design of duct systems, sealing of ducts, and maintenance practices that promote safe, effective, and efficient system operation. This project reportedly reduced electricity consumption by 186 megawatthours, leading to an indirect emissions reduction of 177 metric tons carbon dioxide equivalent.

Building Shell

Building shell projects improve the energy efficiency of buildings through upgrades to ceilings, walls, floors, windows, or doors (e.g., insulation, air sealing, or efficient materials). A large share of the projects reported in the building shell category involved DSM programs by electric power providers. Several new building shell projects were reported for 2002. For example, the Los Angeles Department of Water and Power (LADWP) reported on a new Cool Roofs Program that it started in July 2001. The program, administered by LADWP for customers within LADWP service territory on behalf of the California Energy Commission, is a State-funded incentive program to install Energy Star roofing

[26]The SEER is a measure of cooling performance, used for rating central air conditioners and central heat pumps. It is the ratio of cooling output divided by power consumption, calculated as British thermal units (Btu) of cooling output during normal annual usage divided by total electric energy input (in watthours) over the same period. In 1992, Federal appliance standards required a minimum SEER of 10 for split-system central air conditioners and central heat pumps. Heat pumps and central air conditioners sold in 1986 had an average SEER of about 9.

products on commercial or multi-family residential buildings. Cool roofs provide at least 65 percent solar reflectivity and 80 percent emissivity (ability to emit heat), and they stay 50 to 60°F cooler during peak summer conditions. The goal of the LADWP program is to reduce peak electricity demand and energy usage. In 2002, the program led to a reported reduction in electricity use of 678 megawatthours and a reduction in indirect emissions of 530 metric tons carbon dioxide equivalent.

Load Controls

Load controls are energy management techniques for minimizing—either overall or at specific times of the day—the load demands on electric power providers. Power companies themselves can use load management options and also, through DSM programs, encourage their customers to apply load controls. Independently, power consumers can employ load controls to reduce their energy consumption, shift their demand to non-peak hours, reduce their consumption during peak hours, and reduce energy costs. Load control options include energy efficiency projects, load building, load shifting, peak clipping, and valley filling (see box on page 34).

For 2002, Rolls Royce Corporation reported a load control project using a peak clipping method, which involved the installation of new natural gas turbines to generate electricity during peak demand periods. FirstEnergy Corporation reported another load control project, the Thermal Energy Storage Project. FirstEnergy sought opportunities to reduce maximum weekday on-peak electrical loads.

Thermal energy storage is designed to reduce summer weekday peak electric loads for space and process cooling applications by shifting those loads to off-peak periods, and to reduce energy use through off-peak system operations. Cooling energy is stored in cold water, eutectic salts, or ice systems by the operation of electric chillers during off-peak periods and then retrieved during on-peak periods, resulting in a reduction of on-peak electricity demand. Application of off-peak cooling systems can also reduce energy consumption by rejecting heat at lower ambient temperatures. Methods employed by FirstEnergy included providing information on thermal energy storage design and application, providing funding to and participation in engineering studies, preparing or assisting in the preparation of proposals, and encouraging the use of off-peak thermal energy storage systems by new and existing customers. Efforts were focused on the application of space and process cooling storage systems with the potential to reduce customers' total operating costs, provide reasonable internal rates of return for users, and reduce on-peak electrical loads. FirstEnergy reported that its project resulted in direct emission reductions of 3,708 metric tons carbon dioxide equivalent in 2002.

Motor and Motor Drive

High- or ultra-high-efficiency motors and variable-speed or variable-frequency motor drives are more energy efficient than regular motors and motor drives. In addition, controls can be used to reduce electrical consumption by adjusting motor speeds or turning off motors when appropriate. Motor and motor drive projects are generally reported in the commercial and industrial categories, and often they are a component of DSM programs.

Allergan reported two new motor and motor drive projects for 2002. In the first project, which began in November 2002, 10 5-kilowatt motors with efficiencies of 87 percent were replaced with new motors of the same size that had efficiencies of 91 percent. The project reportedly reduced electricity use by 615 kilowatthours and indirect emissions by a total of 0.5 metric tons carbon dioxide equivalent. A second project reported by Allergan uses energy-efficient motors to replace old motors when they wear out. Several motors, ranging in size from 1 to 150 horsepower, were replaced with higher efficiency models in 2002, resulting in electricity savings estimated at approximately 44,000 kilowatthours per year. A listing of all the motors in the facility at the time of the motor study was used as the basis for calculating the savings, which were pro-rated over the 8-month period of the project, beginning in May 2002. Electricity savings from the project were reported to be 29,369 kilowatthours, resulting in a total emission reduction of 19 metric tons carbon dioxide equivalent.

Fuel Switching

Switching from high-carbon to low-carbon fuels reduces carbon dioxide emissions generated during combustion. There were no new reporters in the fuel switching energy end-use category for 2002, but one entity reported a new project. Green Mountain Energy Company reported a project that supported electricity generation from wind energy through the purchase of renewable energy credits. The renewable energy credits were used to support the development and utilization of wind energy in Texas equivalent to the amount of energy used in the company's corporate offices. The new renewable resources produce zero net emissions of carbon dioxide and offset non-zero-carbon generation that is typical of power purchasers in Green Mountain's geographic area. This project reportedly led to indirect emission reductions totaling 496 metric tons carbon dioxide equivalent.

Energy Effects of Urban Forestry

Urban forestry is the planting and maintenance of individual trees within a city or community. Urban forestry projects can reduce both carbon dioxide emissions and energy expenditures for urban heating and cooling requirements. General examples of such projects include

the planting of shade trees to reduce cooling requirements and windbreaks to reduce heating requirements. Urban forestry projects can also sequester carbon, as discussed in Chapter 4.

Eight urban forestry projects were reported for 2002. LADWP reported on its Cool Schools Urban Forestry - Energy Efficiency Effects project, which capitalizes on the energy effects of urban forestry. The project provides for the planting of trees at Los Angeles Unified School District campuses throughout the city. The participating schools teach the Cool Schools environmental curriculum, which exposes children to science and caring for the environment. Tree planting is coordinated with the installation of air conditioning and asphalt resurfacing at the campuses, leading to reduced expenditures for air conditioning , better air quality through the uptake of air pollutants, improved aesthetics, and reductions in carbon dioxide emissions. During 1998 and 1999, 3,278 trees were planted at schools participating in the program. Another 742 trees were planted in 2000, 591 in 2001, and 1,735 in 2002. The trees are approximately 2 years old, 15-gallon size, and 10 feet tall when planted. Survival is assumed to be 100 percent, because any tree that dies is replaced. The goal of the program is to plant 8,000 trees at more than 80 schools. It was scheduled to end in December 2002 but has been extended into 2003. For 2002, LADWP reported that the project produced direct emission reductions of 402 metric tons carbon dioxide equivalent.

Industrial Power Systems

Industrial power system projects are designed to reduce emissions from industrial power systems through efficiency improvements such as boiler system upgrades and replacements and turbine optimization. There were no new reporters or projects in the industrial power system category for 2002; however, an ongoing project reported by Xcel Energy provides energy saving opportunities for business, residential, and governmental applications. Xcel works with its clients to define direct-impact projects (those that produce measurable energy savings). Xcel's direct-impact projects fall into the end-use categories of chillers, industrial process efficiency, nonresidential equipment replacement, nonresidential new construction, residential natural gas dryers, industrial process efficiency audits, replacement of residential equipment, residential lighting, residential new construction, and bid projects typically involving commercial or industrial applications. Xcel reported that these DSM projects reduced emissions from its customers' electricity consumption by 30,736 metric tons carbon dioxide equivalent in 2002.

Other

There were five new projects in the other project type category for the 2002 reporting year, none of which was from a new reporter. This project category captures the effects of energy end-use projects that cannot be meaningfully included in another category. Reporters of new projects for 2002 include Allergan, Inc., Lehigh Cement, and Seattle City Light. Allergan reported an air compressor efficiency project in which two 150-horsepower air compressors that run continuously (24 hours a day, 365 days a year) at 125 pounds per square inch discharge pressure were reduced to 105 pounds per square inch. The maximum line pressure needed in Allergan's manufacturing process is 80 pounds per square inch. The reduction in pressure resulted in less energy consumption and reported emission reductions of 63 metric tons carbon dioxide equivalent. The other new projects include three reported by Lehigh Cement Company that used alternative fuels (such as waste tires, waste oil, and rice hulls) as energy sources and a project reported by Seattle City Light that is designed to provide process efficiency improvements in manufacturing, processing, and refining.

Reducing Emissions from Transportation

The transportation sector is the largest contributing sector to total U.S. emissions of carbon dioxide, accounting for 32 percent of emissions in 2002. These emissions result from the combustion of fossil fuels, and 98 percent result from the direct use of petroleum fuels. Emissions from the transportation sector increased by 18 percent between 1990 and 2002, from 1,570 million metric tons carbon dioxide equivalent to 1,850 million metric tons carbon dioxide.[27] The increase was caused by increases in both the average number of miles driven per vehicle and the total number of vehicles on the road. The average number of miles driven by passenger cars increased by 12 percent between 1990 and 2000,[28] and the number of vehicles on the road increased by 17 percent between 1990 and 2000.[29] Emissions growth was moderated somewhat by an increase in average U.S. vehicle fleet

[27]Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), web site www.eia.doe.gov/oiaf/1605/1605a.html.

[28]Energy Information Administration, *Annual Energy Review 2002*, DOE/EIA-0384(2002) (Washington, DC, October 2003), p. 61, web site www.eia.doe.gov/emeu/aer/.

[29]U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2002*, BTS02-08 (Washington, DC,December 2002), Table 1-11, web site www.bts.gov/publications/national_transportation_statistics/html/table_01_11.html.

fuel efficiency from 16.4 miles per gallon to 17.1 miles per gallon between 1990 and 2001.[30]

A total of 60 transportation projects were reported on Form EIA-1605 for 2002 by 33 entities, all but 2 of which were electric utilities. One of the nonutilities was CLE Resources, a subsidiary of an electric utility, and the other was the telecommunications firm AT&T. Fifty-three of the 60 transportation projects reported on Form EIA-1605 for 2002 have been reported in previous years. Seven new projects were reported for 2002:

- AT&T reported a fleet reduction program based on a strategy of reducing the number of and making upgrades to the vehicles in its fleet in order to reduce gasoline consumption.
- CLE Resources reported on the foreign component of its previously reported domestic McHugh Software project, which is an investment in a company providing warehouse and transportation management software that reduces fuel consumption through more efficient routing and avoidance of traffic problems.
- Connectiv Delmarva Generation provided information on emission reductions resulting from the subsidization of mass transit travel between Conectiv's headquarters in Delaware and the offices of its recent merger partner, Pepco, in Washington, DC.
- Conectiv Delmarva Generation also reported on the use of soy-based biodiesel fuel in its fleet vehicles.
- Consolidated Edison Company of New York, Inc., reported on its alternative-fuel vehicle program, which involves the operation of compressed natural gas (CNG) fleet vehicles and evaluation of other fuels, including biodiesel and E-85 (a blend of 85 percent ethanol and 15 percent gasoline).
- National Grid USA reported on its alternative-fuel vehicle program, which includes operation and testing of natural gas and electric vehicles.
- Portland General Electric Co. reported on the installation of power-line-based energy management systems in low population density areas to reduce vehicle travel for meter reading.

Thirty-five (58 percent) of the projects reported for 2002 were affiliated with the Department of Energy's Climate Challenge program, which was the only national voluntary program represented.

Tables 12 and 13 show transportation project trends in the first nine reporting cycles of the Voluntary Reporting Program. The projects reported for 2002 fall into three broad categories:[31]

- Alternative fuel use (30 projects or 50 percent)
- Travel reduction (26 projects or 43 percent)
- Vehicle efficiency improvements (5 projects or 8 percent).

The primary effect of the transportation projects reported was to reduce emissions of carbon dioxide, although reductions in emissions of nitrous oxide or methane were also reported for 5 projects. For 16 of the 60 projects reported, either reductions did not occur in 2002 or they were not estimated.[32]

Direct reductions totaling 41,966 metric tons carbon dioxide equivalent were reported for 27 projects in 2002 (Table 12). This represents a 7-percent decrease from the 44,996 metric tons carbon dioxide equivalent in direct reductions reported for 2001.

Indirect emission reductions in 2002 totaling 161,156 metric tons carbon dioxide equivalent were also reported for 24 projects. The sources of the reductions included "fuel cycle" emissions associated with production, refining, transportation, and distribution of fossil fuels; customer-owned natural gas vehicles refueled by natural gas distribution companies; employee vehicles affected by reporter-sponsored travel reduction programs, such as carpooling; and railroad-owned locomotives hauling coal in lightweight aluminum rail cars owned by electric utilities. Indirect reductions from transportation projects reported for 2002 were 83 percent greater than those reported for 2001, due primarily to the addition of the AT&T telecommuting project, which accounted for 63,503 metric tons carbon dioxide equivalent in reductions that had not been reported since the 1999 data year.

Using Alternative Fuels

Fifty percent of the transportation projects reported for 2002 involved alternative-fuel vehicles (AFVs). These projects accounted for 30 percent of the direct reductions, but only 3 percent of the indirect reductions, reported for transportation projects. In general, the reported reductions for AFV projects were small, with reductions in excess of 1,000 metric tons carbon dioxide equivalent being reported for only five projects.

[30]Energy Information Administration, *Annual Energy Review 2002*, DOE/EIA-0384(2002) (Washington, DC, October 2003), p. 61, web site www.eia.doe.gov/emeu/aer/.

[31]The sum of projects in each category exceeds the total number of projects because some projects are counted in more than one category.

[32]In some cases, reductions for the project may have been reported for years before 2002. In other cases, the reductions were not estimated due to the lack of data or other difficulties in quantifying the effects of the project. Entities may elect to report projects without reporting reductions to make a public record of the fact that they have conducted an activity in fulfillment of a commitment made under a voluntary program such as Climate Challenge.

AFV projects involved a variety of fuels, including natural gas, electricity, propane, biodiesel, E-85, and M-85 (a blend of 85 percent methanol and 15 percent gasoline). Electricity was included in 14 project reports. Southern California Edison's electric vehicles reportedly logged 1.9 million miles in 2002, more than 10 times the 174,000 miles reported in 1996. LADWP reported operating 258 electric vehicles in 2002, up from 204 in 2001 and 18 in 1996. Southern Company reported operating an electric vehicle fleet of 292 vehicles in 2002, including cars, trucks, neighborhood electric vehicles, and buses.

Fifteen projects involved the operation of CNG or liquefied natural gas (LNG) vehicles. Three utilities reported operating fleets of CNG, LNG, or dual-fuel CNG/gasoline vehicles of more than 100 vehicles in 2002: PG&E Corporation (5,012 vehicles), We Energies (654 vehicles), and NiSource (522 vehicles).

Five AFV projects reported for 2002 involved fuels other than natural gas and electricity.[33] Activity in 2002 was reported for three of those projects. Exelon Corporation reported using E-85 in 247 vehicles, propane in another 85 vehicles, and biodiesel in 1,757 vehicles. Cinergy Corp. also reported the use of AFVs fueled by propane. Conectiv Delmarva Generation reported using a soy-based biodiesel fuel in its fleet vehicles in 2002.

Reducing Vehicle Travel

Travel reduction, which includes such activities as carpooling and vanpooling, mass transit, telecommuting, and service efficiency improvements, was reported

Table 12. Number of Projects and Emission Reductions Reported on Form EIA-1605 for Transportation Projects by Project and Reduction Type, Data Years 1994-2002

Year	Number of Projects				Emission Reductions (Metric Tons Carbon Dioxide Equivalent)	
	Vehicle Efficiency	Travel Reduction	Alternative Fuels	Total	Direct	Indirect
1994	3	6	18	26	4,203	6,346
1995	6	14	21	40	22,660	54,061
1996	7	15	26	47	28,813	54,043
1997	9	20	27	55	32,283	95,782
1998	9	23	28	58	25,085	89,174
1999	10	25	30	62	43,499	282,257
2000	9	25	32	64	22,611	134,519
2001	5	21	28	53	44,996	88,023
2002	5	26	30	60	41,966	161,156

Notes: Project totals do not equal sum of components, because some projects are counted in more than one category. Table excludes data from confidential reports.
Source: Energy Information Administration, Form EIA-1605.

Table 13. Emission Reductions Reported on Form EIA-1605 for Transportation Projects by Project and Reduction Type, Data Years 1994-2001
(Metric Tons Carbon Dioxide Equivalent)

Year	Vehicle Efficiency		Travel Reduction		Alternative Fuels	
	Direct	Indirect	Direct	Indirect	Direct	Indirect
1994	1,244	5,651	1,170	—	1,956	695
1995	18,148	36,137	2,179	16,461	2,463	1,495
1996	18,647	38,602	5,427	13,903	4,847	1,546
1997	20,989	48,213	8,753	45,227	2,582	2,352
1998	18,436	70,527	3,110	15,923	3,632	2,746
1999	14,671	174,553	6,077	106,841	22,866	2,148
2000	53	66,324	8,549	67,404	14,021	2,306
2001	-1,109	51,905	13,059	34,050	33,053	2,068
2002	15	48,160	10,920	108,912	31,030	4,085

Notes: Table excludes data from confidential reports.
Source: Energy Information Administration, Form EIA-1605.

[33]Two other reporters resubmitted information on projects that involved consumption of propane and M-85 in previous years; however, the projects were inactive in 2002.

for 26 projects for 2002—accounting for 26 percent of the direct reductions and 68 percent of the indirect reductions reported for transportation projects in 2002. Direct reductions reported for 2002 were 16 percent lower than the 13,059 metric tons carbon dioxide equivalent reported for 2001. In contrast, indirect emission reductions reported for travel reduction projects for 2002 were 220 percent (74,862 metric tons) higher than those reported for 2001, primarily due to the addition of AT&T's telecommuting (63,503 metric tons carbon dioxide equivalent) and fleet cost reduction (5,534 metric tons carbon dioxide equivalent) programs for 2002.

Of the 26 projects reported in the travel reduction category, 14 involved carpooling or vanpooling, 10 increased mass transit ridership, 5 reduced employee vehicle use through telecommuting, 3 increased service efficiency for freight or service vehicles, and 8 involved other actions, such as work week compression, videoconferencing, use of bicycles for utility meter reading, promotion of employee commuting by bicycle or walking, and automation of utility meter reading in areas of low population density.[34]

AT&T reported the largest travel reduction project, a telecommuting program that reportedly reduced indirect emissions by 63,503 metric tons carbon dioxide equivalent. Reductions of more than 5,000 metric tons carbon dioxide equivalent in 2002 were also reported for the following travel reduction projects:

- LADWP reported on its employee carpooling and vanpooling program (8,167 metric tons carbon dioxide equivalent indirect emission reductions).
- Public Service Enterprise Group reported on its employee carpooling, vanpooling, and mass transit programs (7,729 metric tons carbon dioxide equivalent indirect emission reductions).
- Southern Company reported on its carpooling and mass transit programs (6,220 metric tons carbon dioxide equivalent indirect emission reductions).
- TXU reported efforts to reduce fleet and employee vehicle use (5,830 metric tons carbon dioxide equivalent direct emission reductions and 1,466 metric tons carbon dioxide equivalent indirect emission reductions).
- AT&T reported on its fleet cost reduction program (5,534 metric tons carbon dioxide equivalent direct emission reductions).
- CLE Resources reported its investment, through the Edison Electric Institute's EnviroTech investment fund, in McHugh Software, a company that developed software to improve routing for service vehicles (6,659 metric tons indirect carbon dioxide emission reductions from foreign and domestic sources).

Improving Vehicle Efficiency

Emission reductions were reported for only three of the five vehicle efficiency projects reported for 2002. Two projects, both of which involved the use of light-weight aluminum railroad cars to transport coal, were among the four largest reductions reported for transportation projects in 2002. Both projects resulted in indirect emission reductions, in that the locomotives using less fuel were owned by the railroads. Ameren Corporation reported reducing emissions by 21,576 metric tons carbon dioxide equivalent, and Kansas City Power & Light Company reported reducing emissions by 22,275 metric tons carbon dioxide equivalent. Allegheny Energy, Inc., reported reducing direct emissions by 15 metric tons by using carry-all utility vehicles, which are similar to golf carts, to replace a fleet of pickup trucks and vans in performing various duties associated with the operation and maintenance of the Pleasants and Willow Island power stations in West Virginia.

CLE Resources, a subsidiary of Cleco Corporation, continued to report its investment (through the EnviroTech fund established by the Edison Electric Institute) in a company that developed and commercialized a device for monitoring and adjusting tire pressure on trucks to achieve optimal fuel efficiency. CLE Resources did not report emission reductions for this project, due to the unavailability of reliable data on the number of devices sold.

[34]The total number of travel reduction projects is less than the sum of the projects in each subcategory, because some projects include activities in more than one subcategory.

4. Carbon Sequestration

Background

Carbon sequestration plays an important role in the global carbon cycle. Green plants remove (sequester) carbon from the atmosphere through photosynthesis, extracting carbon dioxide from the air, separating the carbon atom from the oxygen atoms, returning oxygen to the atmosphere, and using the carbon to make biomass in the form of roots, stems, and foliage.

Every year in the United States and throughout the world a very large amount of carbon dioxide—on the order of 120 billion metric tons of carbon—is sequestered in biomass.[35] At the same time, carbon is released to the atmosphere from vegetative respiration, combustion of wood as fuel, degradation of manufactured wood products, consumption of biomass for food by animals, and the natural decay of expired vegetation. The net numerical difference, or flux, between carbon sequestration and release can be viewed as a measure of the relative contribution of biomass to the carbon cycle. World flux associated with Earth's living matter is difficult to measure, but biomass is thought to provide a net "sink" equivalent to about 5.1 billion metric tons carbon dioxide per year.[36]

Forests can play an important role in offsetting human-produced carbon emissions. On average, trees are approximately 25 percent carbon by weight (live trees are approximately 50 percent water by weight, and oven-dried wood is approximately 50 percent carbon by weight).[37] The amount of carbon a plant can sequester depends on a number of variables, including species and age, but can be quite large. For example, one large sugar maple tree is capable of removing more than 450 pounds of carbon dioxide from the atmosphere in a year. At that rate, preserving approximately 30 trees per operating automobile in the United States would offset all U.S. automobile-related carbon dioxide emissions.[38]

Carbon sequestration on a national scale is substantial. The U.S. Environmental Protection Agency, relying heavily on the work of the U.S. Department of Agriculture's U.S. Forest Service, estimates annual U.S. carbon sequestration (generally defined according to the guidelines of the Intergovernmental Panel on Climate Change) at 838 million metric tons carbon equivalent,[39] which offsets approximately 12 percent of annual U.S. anthropogenic emissions of greenhouse gases.[40]

Projects Reported

Fifty entities reported projects on Form EIA-1605 that involved forestry or natural resources that sequestered carbon or reduced emissions in 2002 (Table 14). The reporters included 47 electric utilities, a private service organization providing reforestation services to corporate clients, a real estate company, and a city cogeneration plant engaging in a forestry habitat restoration project. A total of 412 carbon sequestration projects were reported for 2002, an increase of 12 percent from the 2001 data year. Carbon sequestration projects were the most numerous type reported on the long form, representing 23 percent of the projects reported for 2002. Carbon sequestration projects outnumbered methane reduction (403), electricity (398), and end use (315) projects this reporting year. The reported carbon sequestration projects were dispersed over a wide geographic area, including 37 States and 8 foreign countries. A total of 344 domestic and 68 international forestry projects were reported. Thirty-three of the foreign projects

[35]Intergovernmental Panel on Climate Change, *Climate Change 2001: The Scientific Basis* (Cambridge, UK: Cambridge University Press, 2001), p. 188.

[36]Intergovernmental Panel on Climate Change, *Climate Change 2001: The Scientific Basis* (Cambridge, UK: Cambridge University Press, 2001), p. 39.

[37]R.A. Birdsey, *Carbon Storage and Accumulation in United States Forest Ecosystems* (Washington, DC: USDA Forest Service, 1992), p. 12.

[38]Average mileage and fuel consumption for passenger cars from Energy Information Administration, *Annual Energy Review 2002*, DOE/EIA-0384(2002) (Washington, DC, October 2003), p. 61, web site www.eia.doe.gov/emeu/aer/pdf/03842002.pdf. Carbon dioxide emissions per mile driven and gallon of motor fuel from U.S. Department of Energy, *Sector-Specific Issues and Reporting Methodologies Supporting the General Guidelines for the Voluntary Reporting of Greenhouse Gases Under Section 1605(b) of the Energy Policy Act of 1992*, DOE/PO-0028 (Washington, DC, October 1994), Vol. 2, p. 4.19.

[39]U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2001*, EPA-430-R-03-004 (Washington, DC, April 2003), p. 6-2, web site http://yosemite.epa.gov/oar/globalwarming.nsf/content/ResourceCenterPublicationsGHGEmissionsUSEmissionsInventory2003.html.

[40]U.S. athropogenic greenhouse gases emissions were 6,862 million metric tons carbon dioxide equivalent in 2002. Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), p. ix, web site www.eia.doe.gov/oiaf/1605/1605a.html.

represent individual equity shares in a single forest preservation project in Belize, the Rio Bravo Carbon Sequestration Pilot Project.

The total sequestration reported on Form EIA-1605 for 2002 declined by 8 percent from the previous year, to 7,296,514 metric tons carbon dioxide (Table 14). The decline resulted from a change in PacifiCorp's Noel Kempff Mercado Climate Action Project, which was reported to have sequestered 735,066 metric tons carbon dioxide equivalent in 2001 but only 57,220 metric tons in 2002. The difference of 677,846 metric tons more than accounts for the decline of 660,309 metric tons in total reported carbon dioxide sequestration from 2001 to 2002. The Noel Kempff Mercado project is a forest preservation project;[41] therefore, the sequestration (or avoided emissions) resulting from not harvesting the forest are accounted for over the initial 5 years of the project in addition to the annual accumulation of carbon through forest growth.

Of the sequestration projects reported for 2002, most (322 or 78 percent) involved some kind of tree planting, which included afforestation, reforestation, urban forestry, and woody biomass production or agroforestry (Table 15).[42] These projects accounted for 15 percent of the sequestration (and related direct and unspecified emission reductions) reported for 2002. Although only 38 forest preservation projects were reported, they accounted for 80 percent of the sequestration reported for 2002. Eighty-nine percent of the total sequestration for 2002 was reported on behalf of foreign projects, which include some very large forest preservation and agroforestry initiatives.

Table 14. Number of Projects, Carbon Sequestered, and Net Reductions Reported on Form EIA-1605 for Sequestration Projects, Data Years 1994-2002

Data Year	Number of Reporters	Number of Projects	Sequestration (Metric Tons Carbon Dioxide Equivalent)	Net Emission Reductions (Metric Tons Carbon Dioxide Equivalent)	
				Direct	Indirect
1994	23	58	746,545	189	23,127
1995	44	175	1,190,754	378	48,730
1996	51	175	8,676,591	1,291	32,215
1997	56	279	9,849,807	6,160	—
1998	57	321	12,490,927	716	—
1999	53	401	9,623,599	3,406	—
2000	53	468	9,011,117	1,041	—
2001	51	369	7,956,823	1,114	—
2002	50	412	7,296,514	1,875	—

Source: Energy Information Administration, Form EIA-1605.

Table 15. Number of Sequestration Projects Reported on Form EIA-1605 by Project Type, Data Years 1994-2002

Data Year	1994	1995	1996	1997	1998	1999	2000	2001	2002
Afforestation	26	38	38	91	101	158	181	245	283
Reforestation	15	81	79	91	109	136	167	10	10
Urban Forestry	8	17	21	23	28	28	31	33	32
Forest Preservation	2	22	29	38	43	38	42	37	38
Modified Forest Management	12	20	10	33	41	42	44	41	47
Woody Biomass Production and Other Agroforestry	8	14	2	3	3	3	3	3	3
Conservation Tillage	1	1	1	2	2	2	2	2	1
Other Projects	3	6	6	10	5	5	5	5	5
Total	**58**	**175**	**175**	**279**	**321**	**401**	**468**	**468**	**412**

Note: Project totals do not equal sum of components, because some projects are counted in more than one category.
Source: Energy Information Administration, Form EIA-1605.

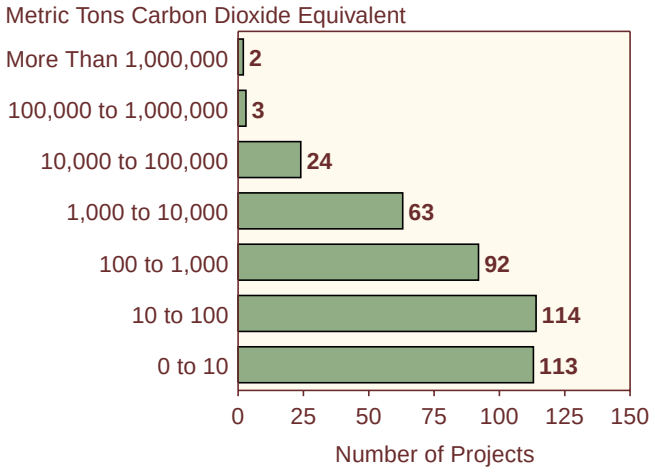
[41] Forest preservation entails protecting an existing forest from harvest or conversion to another land use.

[42] Afforestation is the planting of trees in unforested areas. Reforestation is the planting of trees in forest areas that have recently been harvested. Urban forestry is the planting of trees individually or in small groups in urban or suburban settings. Agroforestry is the cultivation of trees in plantations for fuel or fiber.

Eight percent of the reported projects were urban forestry projects, involving the planting of trees in urban and suburban areas. Urban forestry projects are typically much smaller than forestry projects undertaken in rural or wilderness areas. The average carbon dioxide sequestration reported per urban forestry project for 2002 was just 451 metric tons. In contrast, projects in rural or wilderness areas generally are much larger: 5 such projects sequestered more than 100,000 metric tons carbon dioxide each in 2002 (Figure 12). For the 412 projects for which data were reported, average sequestration in 2002 was 17,710 metric tons carbon dioxide per project.

Almost all (383 or 93 percent) of the reported sequestration projects were undertaken in part to fulfill commitments made under the U.S. Department of Energy's Climate Challenge program. Twenty-eight of the investors in the UtiliTree Carbon Company each submitted reports on the nine projects that were operational in 2002. All the investors reporting were also participants in Climate Challenge. In addition, 35 (8 percent) of the sequestration projects reported on Form EIA-1605 for 2002 were undertaken as part of the U.S. Initiative on Joint Implementation (USIJI). Established under the Climate Change Action Plan (CCAP),[43] the USIJI is a pilot program that seeks to encourage foreign-based emission reduction and carbon sequestration projects conducted by U.S. and non-U.S. partners. Two USIJI-approved forestry projects were reported to the Voluntary Reporting Program: the Rio Bravo Carbon Sequestration Pilot Project (Belize) and the Noel Kempff Mercado Climate Change Action Project (Bolivia).

Figure 12. Carbon Sequestration Projects Reported on Form EIA-1605 by Amount of Carbon Sequestered, Data Year 2002



Source: Energy Information Administration, Form EIA-1605.

Afforestation and Reforestation

Of the sequestration projects reported for 2002, 293 (71 percent) involved either afforestation or reforestation. The carbon sequestration and emission reductions reported for these projects totaled 676,057 metric tons carbon dioxide, representing 9 percent of the total sequestration reported for 2002. All the afforestation and reforestation projects reported for 2002 were domestic.

American Electric Power, Inc. (AEP), a large investor-owned utility, accounted for the largest number of sequestration projects (20 percent of the 289 afforestation and reforestation projects) reported for 2002. AEP reported 57 domestic afforestation projects, which sequestered a reported 108,154 metric tons carbon dioxide in 2002. AEP reported 24 new domestic afforestation projects initiated in 2002, which sequestered a reported 29,520 metric tons carbon dioxide in during the year.

UtiliTree Carbon Company members reported carbon sequestration for nine ongoing UtiliTree projects, including three afforestation projects that were first reported for 2001: the Bayou Cocodrie Bottomland Hardwood Forest Restoration project, the St. Catherine NFWF project, and the St. Catherine ESI project.[44] Twenty-seven separate UtiliTree members reported on each of the three new projects, as well as the ongoing effects of the six projects that were started before 2001. Allegheny Energy, Inc. reported on the three new projects for the first time in 2002.

The Bayou Cocodrie Bottomland Hardwood Forest Restoration project was undertaken as a cooperative agreement between the U.S. Fish and Wildlife Service, the National Fish and Wildlife Foundation, and the UtiliTree Carbon Company. The project involves the restoration of 400 acres of bottomland hardwood on marginal agricultural farmland recently acquired by the Fish and Wildlife Service, which will be added to the Bayou Cocodrie National Wildlife Refuge in east central Louisiana. The project resulted in the reported sequestration of approximately 471 metric tons carbon dioxide among all 27 reporters for 2002.

The St. Catherine NFWF and ESI projects, located on the Mississippi River just south of Natchez, Mississippi, consist of the creation of carbon sinks by converting marginal agricultural lands (600 acres in the case of St. Catherine NFWF and 500 acres in the case of St.

[43]President William J. Clinton and Vice President Albert Gore, Jr., *The Climate Change Action Plan* (Washington, DC, October 1993), Appendix II, web site www.gcrio.org/USCCAP/toc.html.

[44]UtiliTree is sponsoring two projects in the St. Catherine National Wildlife Refuge. The St. Catherine-NFWF project is being developed in conjunction with the National Fish and Wildlife Foundation, and the St. Catherine-ESI project is being undertaken with Environmental Sysnergy, Inc.

Catherine ESI) to forest cover by the planting of trees. According to the UtiliTree reporters, Federal funds would not be dedicated on the scale necessary to reforest the properties, and the land would likely be used for farming for the foreseeable future without these projects. Not only do the projects provide the benefit of sequestration of incremental carbon through the accumulation of biomass above and below ground, they will also eliminate carbon dioxide emissions from agricultural cultivation equipment. Together, these projects resulted in the reported sequestration of approximately 1,308 metric tons carbon dioxide among all 27 reporters for 2002.

Cinergy Corporation reported on three new afforestation projects for 2002: Hendricks County McCloud Park, Sycamore Land Trust, and NICHES (Northern Indiana Citizens Helping Ecosystems Survive). The three projects sequestered a reported total of 494 metric tons carbon dioxide in 2002. The Hendricks County McCloud Park project involves the afforestation of 25 acres recently purchased by the Hendricks County Parks Department along riparian[45] and flood plain areas of Big Walnut Creek in Hendricks County, Indiana. The Sycamore Land Trust project involves the planting of 15,000 tree seedlings on 50 acres of cropland along riparian and flood plain areas of Beanblossom Creek in Monroe County, Indiana. The NICHES project involves the planting of 21,000 tree seedlings on 70 acres of marginal cropland along riparian and flood plain areas of the Wabash River in Tippecanoe and Warren counties, Indiana.

Cleco Corporation reported two new afforestation projects for 2002. The Bayou Jean de Jean Reforestation project involves the reestablishment of bottomland hardwoods on 112 acres of marginal pasture land associated with the Cleco Corporation's Rodemacher Power Station in Lafayette, Louisiana. This project sequestered a reported 746 metric tons carbon dioxide in 2002. The Maknockanut Lake Plantation project involves the afforestation of 333 acres in Catahoula Parish, Louisiana, with a variety of bottomland hardwood species. The acreage is part of 3,607 acres of marginal farmland that was acquired by a subsidiary of Cleco Corporation and will undergo afforestation in the future. This project sequestered a reported 1,222 metric tons carbon dioxide in 2002.

Environmental Synergy, Inc., reported one new afforestation project for 2002, the Bottomland Hardwood Restoration project. This project sequestered a reported 2,995 metric tons carbon dioxide in 2002. It is a multi-year project located on various U.S. Fish and Wildlife Service National Wildlife Refuges in Mississippi and Louisiana and U.S. Army Corps of Engineers recreation areas in Arkansas.

Urban Forestry

A total of 32 urban forestry projects were reported for 2002 by 23 reporters, all of which were electric utilities. For the 32 projects, a total of 14,428 metric tons carbon dioxide was sequestered in 2002. Urban forestry projects are unique, in that under some circumstances they can reduce energy consumption as well as sequester carbon. Shade trees planted near buildings reduce summer air conditioning requirements; in addition, trees can act as windbreaks, reducing heating needs in the winter. Although the emission reductions associated with energy effects of urban forestry can be several times the sequestration benefits on a carbon dioxide equivalent basis, they are difficult to estimate. As a result, none of the reporting entities submitted information on energy-related emission reductions for urban forestry projects.

Four new urban forestry projects were reported in 2002. Alliant Energy, through its Branching Out program, has been encouraging and facilitating tree plantings in its Iowa service territory since 1990. Up to 2002, Alliant Energy's sequestration project was listed as two separate projects (Urban Forestry IES-830 and Urban Forestry IPC-831). Since IES Utilities (IES) and Interstate Power Company (IPC) merged in 2002 to form Interstate Power and Light Company (IP&L), the two projects were combined into one (Urban Forestry IP&L-4335). This project sequestered a reported 1,255 metric tons carbon dioxide in 2002. DTE/Detroit Edison reported on two new urban forestry projects for 2002: 70,317 trees were planted in the first project and 99,517 in the second. Combined, the two new projects sequestered a reported 440 metric tons carbon dioxide in 2002. Southern California Edison Company reported one new urban forestry project in 2002, which involved donating seedlings of fast-growth hardwoods and medium-growth bushes to various cities and counties for community plantings.

Forest Preservation

Forest preservation projects sequester carbon by avoiding the harvesting of timber or clearing of land and thus preventing the release of stored carbon. A total of 38 forest preservation projects were reported for 2002 by 30 reporters. The two largest forest preservation projects were reported by AES Hawaii and AES Shady Point, subsidiaries of the AES Corporation. AES Hawaii reported on the Mbaracayu Conservation project in Paraguay, and AES Shady Point reported on the OXFAM America Amazon project in Bolivia. Together, the two projects sequestered a reported 5.69 million metric tons carbon dioxide in 2002, representing 78 percent of the

[45]Riparian areas are those located on the banks of a natural watercourse, such as a river, lake, or tidewater.

total sequestration reported for forest preservation projects.

Two utilities (AEP and PacifiCorp) reported on the Noel Kempff Mercado Climate Action Project in Bolivia, which was accepted by the USIJI in November 1996. The project, which involves the preservation of 634,286 hectares of land on the southern and western boundary of the Noel Kempff Mercado National Park by incorporating it into the park, includes the following components: (1) carbon dioxide emission reductions through the cessation of logging activities and the protection of forest land from conversion to agricultural use; (2) protection, regeneration, and preservation; and (3) leakage prevention.[46] The sequestration reported by AEP and PacifiCorp totaled 211,272 metric tons carbon dioxide for 2002.

The Rio Bravo Carbon Sequestration Pilot Project, a forest preservation project in Belize, was included in the reports submitted by 27 utilities, each of which reported its prorated share of the total sequestration for the project. Begun in 1995, the project is being undertaken through a partnership between Cinergy Corporation, DTE/Detroit Edison, PacifiCorp, Wisconsin Electric Power Co., the UtiliTree Carbon Company, the Nature Conservancy, and a Belizean nongovernmental organization (Programme for Belize). The project includes the purchase of a 14,400-acre parcel of endangered forest threatened with conversion to agriculture.

The entire Rio Bravo Carbon Sequestration Pilot Project sequestered an estimated 115,860 metric tons carbon dioxide in 2002, of which 105,107 metric tons (91 percent) was reported to the Voluntary Reporting Program.[47] The reported carbon sequestration for this project was estimated by defining a reference case that assumes a profile of carbon releases that would have occurred if the project had not been undertaken and the forest had been converted to agriculture over a 5-year period (1995-1999). The estimated carbon sequestration equals the projected avoided carbon releases. To date, the entire project has sequestered an estimated 4.4 million metric tons carbon dioxide. The UtiliTree Carbon Company estimates that most (92 percent) of that carbon dioxide was sequestered during the 5-year preservation phase of the project. The smaller annual sequestration totals reported for years after 2000 represent the accumulation of carbon in the forest after the first 5 years.

Only one domestic forest preservation project was reported for 2002, by Alliant Energy, which reported sequestering 1,597 metric tons carbon dioxide by maintaining forested buffer lands around its power plants in the Wisconsin River Valley.

Two new large-scale forest preservation projects were reported for 2002: the Mbaracayu Conservation project, reported by AES Hawaii, Inc.; and the OXFAM America Amazon project reported by AES Shady Point, LLC. The Mbaracayu Conservation project is designed to offset carbon dioxide emissions from the AES Hawaii plant, a 180-megawatt circulating fluidized-bed coal-fired cogeneration plant on the island of Oahu. Sequestration of carbon is accomplished through the planting of fruit trees and cash-producing indigenous trees in the 143,000-acre Mbaracayu forest tract, which without the project, according to AES, would be sold to a timber company. This project sequestered a reported 1,540,000 metric tons carbon dioxide in 2002.

AES Shady Point is supporting an innovative project to protect the tropical forest in the Amazon region of Peru, Ecuador, and Bolivia in cooperation with OXFAM America and indigenous groups from the South American countries. The project is intended to offset carbon dioxide emissions from the AES Shady Point plant in Oklahoma. The OXFAM America Amazon project will support indigenous groups from Peru, Ecuador, and Bolivia in gaining control over their lands and developing sustainable resource extraction plans for the forest. The World Resources Institute, which assisted AES Shady Point in locating and calculating the offset quantities involved with the project, estimates that 10 years of support of these activities can conservatively be expected to protect 1.2 million acres of pristine rain forest and avoid at least 70 million short tons of carbon emissions that would be released if the forest were cleared, as is the practice in the affected project areas. This project sequestered a reported 4,150,000 metric tons carbon dioxide in 2002.

Modified Forest Management

Of the 47 modified forest management projects reported for 2002, 28 were associated with two related reduced-impact logging initiatives in Malaysia. The first initiative was a pilot project reported by PG&E Corporation.[48] Started in 1992, this project implemented new logging

[46]Leakage refers to the migration of logging and land-clearing activities that would have occurred in the preserve to areas outside the preserve, which would offset the sequestration achievements of the project.

[47]Eleven UtiliTree participants did not submit reports to the Voluntary Reporting Program for data year 2002, including one Canadian utility that is ineligible to report.

[48]This project was originally sponsored by New England Power Company and reported by its parent company, New England Electric System (NEES) Company. In August 1998, USGen New England, Inc. (USGenNE) completed the acquisition of New England Electric System (NEES) Company's hydroelectric and fossil power generation business previously operated by New England Power. As part of the acquisition, the rights to the emission reductions and carbon sequestration achieved by this and other projects were transferred to USGenNE. For 2000, the activities previously reported by USGenNE were incorporated into the report submitted by its parent, PG&E Corporation.

techniques with the goal of reducing logging damage by 50 percent. The new techniques include pre-cutting of vines, directional felling, and planned extraction of timber on impact-reducing skid trails. Twenty-seven utilities reported their shares in the second initiative—a full-scale project sponsored by the UtiliTree Carbon Company that introduced reduced-impact logging practices to 2,422 acres of forest beginning in 1997. The second initiative increased sequestration by a reported 10,365 metric tons carbon dioxide equivalent in 2002.

DTE Energy/Detroit Edison conducted selective harvesting operations in previously unmanaged wood lots and reported increasing sequestration by 1,340 metric tons in 2002. Alliant Energy reported enhanced forest management activities as a component of its afforestation project. AEP reported 12 projects that involved the utility's annual additions to its modified forest management efforts conducted in upland central hardwood stands. The stands are selectively harvested, removing over mature, mature, cull, and diseased trees, and other steps are undertaken as necessary to improve growing space relationships and maximize the growth rates of the stands. The combined additional sequestration reported by AEP for these projects in 2002 was 16,969 metric tons carbon dioxide. AEP initiated an additional modified forest management project in 2002, which sequestered a reported 386 metric tons carbon dioxide in 2002.

Southern California Edison Company reported three new modified forest management projects in 2002, each of which deals with a different component of the 20,000 acres of forest land at Shaver Lake that is owned by Southern California Edison. The projects involve the management of 1,600 acres of forest land and timber harvesting to restore the natural balance of the forest, to enhance wildlife habitat, and to improve the health of the forest. The three projects sequestered a reported total of 24,663 metric tons carbon dioxide in 2002.

Forest Plantations

Forest plantations include woody biomass production and agroforestry. Woody biomass production is the cultivation of trees in intensively managed plantations for the purpose of producing fuel or fiber. Agroforestry involves mixing trees with annual crops to provide wind shelter, stabilize soil, sequester carbon, and produce fuel wood and fruit crops.

One of the three woody biomass production projects reported for 2002 was a project involving the establishment of a short-rotation cottonwood plantation on a river bottom site in Alabama, reported by J.M. Gilmer and Company. The cottonwoods will be harvested on a 12-year rotation and used as biofuel (displacing fossil fuel) or for pulpwood. After cutting, the cottonwood stand will be regrown, and a second 12-year crop rotation will begin. J.M. Gilmer and Company reported that this plantation sequestered 180 metric tons carbon dioxide in 2002.

AES Thames reported an agroforestry project in Guatemala that involves establishing a plantation of fruit, pulp, and fuel wood trees. Using a revised estimation method, AES Thames reported that its project sequestered 410,000 metric tons carbon dioxide in 2002.

The third forest plantation project reported for 2002 was Minnesota Power's Short Rotation Woody Crop Establishment project, in which the utility contracts with landowners enrolled in its Conservation Reserve Program to plant hybrid poplars. Minnesota Power reported the sequestration of 17,802 metric tons carbon dioxide through this effort in 2002.

Conservation Tillage and Other Sequestration Projects

Not all the carbon sequestration projects reported for 2002 involved conventional forestry. Other projects reported involved conservation tillage, reuse of utility poles, and restoration of terrestrial, wetland, and marine habitats. Six such projects were reported for 2002.

Exelon (formerly Commonwealth Edison and PECO) reported on its Illinois Prairie Grass Plantings project, in which native prairie grasses are planted on various properties in the utility's State system. In contrast to conventional turf grass, the deep root systems of native Illinois prairie grasses afford environmental benefits that include reducing soil erosion and downstream flooding and eliminating the need for irrigation, fertilizers, pesticides, and herbicides. In addition, the deeper root systems sequester more carbon dioxide. For this project, Exelon claimed responsibility for the sequestration of 696 metric tons carbon dioxide in 2002. In another project, Exelon reused wood utility poles that are structurally sound in order to avoid the harvesting of trees to manufacture new utility poles. The utility pole reuse project was reported to have sequestered 649 metric tons carbon dioxide in 2002.

Alliant Energy reported on a conservation tillage project in south central Wisconsin that involved the conversion of 956 acres of former corn and soybean row cropland to a variety of other uses, including tall grass prairie, wetlands, conservation tillage, and oak savanna. This project reportedly sequestered 4,390 metric tons carbon dioxide in 2002. Alliant Energy also reported on a habitat restoration project in Wisconsin, which sequestered 3,493 metric tons carbon dioxide in 2002.

Other carbon sequestration projects include the reclamation of 6 acres of wetlands by Conectiv Atlantic

Generation and reclamation of wetlands in Texas and Louisiana by Entergy Services, Inc. The two projects sequestered a reported total of 54,895 metric tons carbon dioxide in 2002.

For the 2001 reporting year there was one new reporter in the carbon sequestration project category. The Indiana Association of Soil and Water Conservation Districts (IASWCD) reported for 2001 on a project that involved collection of county-level data on historical agricultural and drainage practices in the State's 92 Soil and Water Conservation Districts. IASWCD did not report again in 2002.

5. Reducing Methane Emissions

Introduction

U.S. anthropogenic (human-caused) methane emissions totaled an estimated 26.6 million metric tons in 2001, 4.6 million metric tons less than in 1990. Estimated emissions from landfills—the largest single anthropogenic source of methane in the United States—dropped from 11.0 million metric tons in 1990 to 6.9 million metric tons in 2002[49] as a result of a rapid increase in methane recovery at landfills. Three factors contributed to the increase in methane recovery: the now-expired Section 29 tax credit for alternative fuels, the implementation of EPA's New Source Performance Standards and Emission Guidelines,[50] and higher natural gas prices that made landfill gas more competitive as an energy fuel.[51] Overall, methane recovery at landfills grew from about 1.1 million metric tons in 1990 to 5.9 million metric tons in 2002.[52] Although not directly correlated, the increase in activity aimed at capturing methane from landfills is reflected in reports submitted to the Voluntary Reporting Program. For the 2002 data year, reduction activities were reported on Form EIA-1605 for at least 321 separate landfills, up from 307 in 2001.[53]

Another significant component of the overall decline in U.S. methane emissions has been a drop in emissions from coal mining. Methane emissions from coal mines are estimated to have declined from 4.2 million metric tons in 1990 to 2.9 million metric tons in 2002.[54] To some extent, the decline is attributable to an increase in methane recovery at coal mines, from 0.3 million metric tons in 1990 to about 0.8 million metric tons in 2002. The Voluntary Reporting Program received reports on 18 emission reduction projects at coal mines for 2002, up from 16 for 2001. The 18 projects reported total direct methane emission reductions of 567,088 metric tons (13.0 million metric tons carbon dioxide equivalent) in 2002, up from 538,285 metric tons methane (12.4 million metric tons carbon dioxide equivalent) in 2001.

Although U.S. methane emissions from the production, transmission, and distribution of natural gas and from agricultural activities both are estimated to have increased between 1990 and 2002 (by 15.5 percent and 5.0 percent, respectively), some entities reported reductions in emissions from these sources. Reduced emissions from the natural gas system were reported for 21 projects, and reduced emissions from agricultural activities were reported for 3 projects.

Overview of Projects Reported

For the 2002 data year, 69 organizations reported a total of 445 projects to reduce methane emissions, a 3.7-percent increase from the 2001 data year[55] and nearly a 16-fold increase from the first (1994) reporting cycle (Table 16). Fifty-one of the projects were reported for the first time in the 2002 reporting cycle, either because they began achieving reductions in 2002 or because they were reported by one of three new reporters. Some projects reported for previous years were not reported for 2002.

Direct reductions of methane emissions reported on Form EIA-1605 for all project types in 2002 totaled 3,481,385 metric tons methane, down from 3,546,480 metric tons reported for 2001 (Table 17). Of the total for 2002, 70.4 percent was attributable to 403 waste treatment projects that reported an average of 6,240 metric tons direct methane emission reductions per project. The 202 projects reported by Waste Management, Incorporated, resulted in a reported reduction of 1,308,096 metric tons methane (30,086,208 metric tons carbon dioxide equivalent), or 36.8 percent of total reported direct reductions of methane emissions.

[49]Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), web site www.eia.doe.gov/oiaf/1605/1605a.html.

[50]The EPA's Landfill Methane Outreach Program (LMOP) has also contributed to the increase in methane recovery from landfills, as reflected by the large percentage of landfill gas-to-energy project developers who reported participation in LMOP as part of their submissions to the Voluntary Reporting of Greenhouse Gases Program (see Table 20 in this chapter).

[51]B. Guzzone, U.S. Environmental Protection Agency, Landfill Methane Outreach Program, "Fluctuating Energy Prices: Boom or Bust for the LFG Energy Markets?," presented at SWANA WASTECON 2002 (Long Beach, CA, October 29-31, 2002).

[52]Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), web site www.eia.doe.gov/oiaf/1605/1605a.html.

[53]The counts of landfills represent minimum levels, because not all reporters explicitly identified the landfills on which they were reporting. The counts exclude reports received after the close of the reporting cycles, in order to maintain comparability.

[54]Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), web site www.eia.doe.gov/oiaf/1605/1605a.html.

[55]Excluding late reporters from the 2000 total, the decrease was much smaller (7 percent).

Projects to reduce methane emissions from coal mines and natural gas systems generally yielded much larger direct reductions per project (Figure 13), averaging 20,440 metric tons methane. Total direct emission reductions of 567,088 metric tons methane were reported for coal mining projects in 2002, accounting for 16 percent of the direct methane emission reductions reported for 2002. The 21 natural gas system projects reported for 2002 reduced direct emissions by a total of 230,066 metric tons methane, or about 6 percent of all reported direct methane emission reductions.

Indirect methane emission reductions from waste treatment and disposal projects totaled 1,003,323 metric tons, or 94 percent of all indirect methane emission reductions reported on Form EIA-1605. This total included two very large projects reported by DTE Energy and the Integrated Waste Services Association (IWSA). DTE Energy reported 227,092 metric tons of indirect reductions from multiple landfill gas-to-energy systems reported as one large project, and IWSA reported indirect reductions of 341,705 metric tons from the waste-to-energy facilities of its members. Overall, reported indirect reductions continued to grow in 2002, due primarily to the nearly increase in reported reductions (75,985 metric tons) attributed to the IWSA waste-to-energy project. After dropping between 1996 and 1997 due to an improvement in the estimation methods used by IWSA, reported indirect reductions have continued to grow as a result of increased reporting of landfill gas capture and use projects.

Methane reduction projects are more prone to double reporting than are most other greenhouse gas reduction projects (with the exception of demand-side management programs), because electricity generated from methane recovery at a landfill, coal mine, or animal waste management facility is often sold to a second party, or recovered methane is piped to a second party for use in a boiler. In such cases, the party that captures the methane may report a direct emission reduction and the gas or electricity purchaser an indirect reduction. Where double reporting does occur, however, double counting is avoided because electricity producers report methane reductions as indirect unless they have an ownership stake in the landfill or its gas resource, whereas landfill gas developers report methane reductions as direct. Although there may be two reports of the same reduction from a single project, the reduction is unlikely to be counted more than once, because the reductions would be accounted for separately as part of either direct or indirect totals. As an example, Waste Management, Incorporated, and FirstEnergy reported projects on the same landfill. Waste Management recovered methane at the Lake View landfill and used it to generate electricity. FirstEnergy purchased the electricity. Waste management reported more than 5,000 metric tons of direct methane reductions, and FirstEnergy reported

Table 16. Projects Reported on Form EIA-1605 with Methane Reductions as the Principal Outcome by Project Type, Data Years 1994-2002

Project Type	1994	1995	1996	1997	1998	1999	2000	2001(R)	2002
Waste Management and Disposal	**17**	**23**	**44**	**53**	**90**	**153**	**350**	**391**	**403**
Landfill Gas Recovery	14	19	40	48	80	139	337	381	390
Wastewater Treatment	2	2	2	3	5	6	8	4	7
Other	1	2	2	2	5	8	5	6	6
Agriculture	**3**	**3**	**3**	**3**	**4**	**4**	**5**	**3**	**3**
Energy Production and Consumption	**8**	**11**	**13**	**15**	**28**	**28**	**28**	**35**	**39**
Coal Mining	2	3	4	5	17	15	14	16	18
Natural Gas Production, Transmission, and Distribution	6	8	9	10	11	13	14	19	21
Total	**28**	**37**	**60**	**71**	**122**	**185**	**383**	**429**	**445**

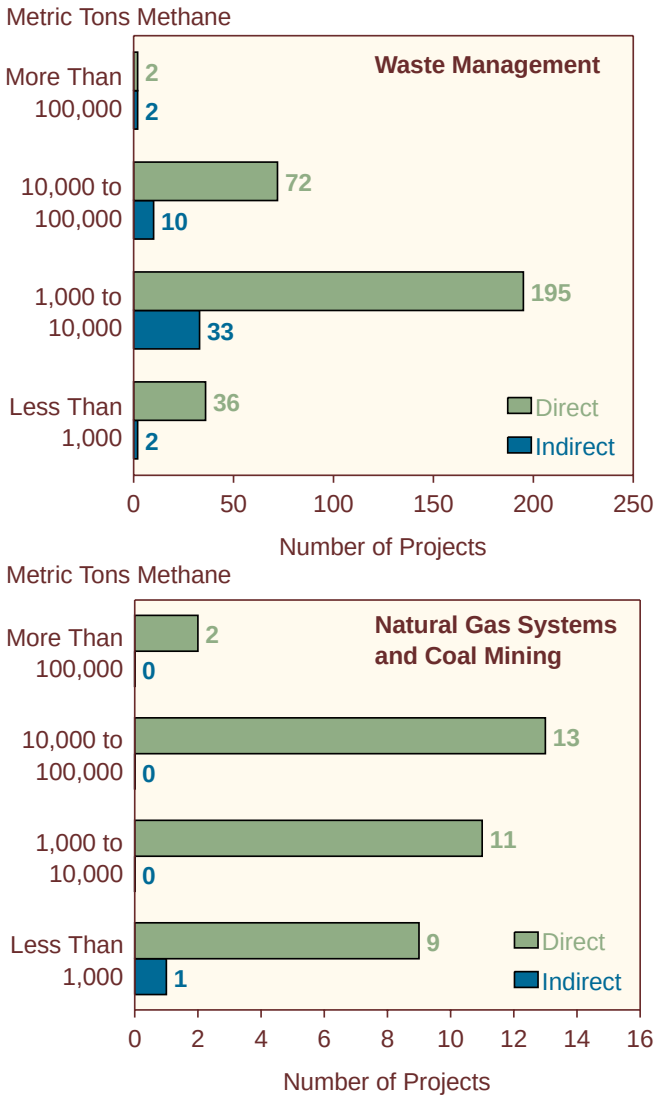
(R) = revised.
Note: Project totals do not equal sum of components, because some projects are counted in more than one category.
Source: Energy Information Administration, Form EIA-1605.

Table 17. Total Methane Emission Reductions Reported on Form EIA-1605, All Project Types, Data Years 1994-2002
(Metric Tons Methane)

Type of Reduction	1994	1995	1996	1997	1998	1999	2000	2001(R)	2002
Direct	25,079	8,450	409,176	378,494	1,379,162	1,564,958	2,693,295	3,546,480	3,481,385
Indirect	102,641	1,077,272	1,157,048	505,663	658,811	827,294	897,465	1,009,400	1,067,643

(R) = revised.
Source: Energy Information Administration, Form EIA-1605.

Figure 13. Methane Emission Reduction Projects Reported on Form EIA-1605 by Type and Size of Reduction, Data Year 2002



Source: Energy Information Administration, Form EIA-1605.

more than 5,000 metric tons of indirect methane reductions.

Additional instances of double reporting may occur if a project is reported by two or more entities with ownership interests in it. Again, because reporters are instructed to report only the portion of overall reductions equal to their ownership share, double counting should not occur. Finally, in instances where both biogas flaring and biogas recovery for energy occur at the same landfill, the projects may be reported more than once; however, the total reductions reported should not exceed the reductions actually achieved, because the landfill gas developer or energy purchaser will not count flared gas in biogas recovery totals.

For 2002 there were 37 landfills for which more than one entity reported emission reductions, or 11 percent of the landfills for which reduction activities were reported on Form EIA-1605. Double reporting can also occur when a single entity reports methane flaring and methane recovery for energy at the same landfill as separate projects. There were 37 such cases among the Form EIA-1605 reports for 2002.

Reducing Methane Emissions from Waste Treatment and Disposal

Reducing emissions from waste treatment and disposal sites was by far the most frequently reported method for lowering methane emissions in 2002. The number of such projects reported on Form EIA-1605 for 2021 (403) made up 91 percent of all the methane emission reduction projects reported for the year. This was 12 more projects than were reported for 2001 (excluding late reports) and almost 24 times the number (17) reported for 1994, the first year of the Voluntary reporting Program. The principal reported method for reducing methane emissions from waste treatment and disposal was the capture of methane generated during the anaerobic decomposition of wastes in a landfill. The methane may be flared, piped to an end-use customer, or used to generate electricity, reducing the need for generation from other, more carbon-intensive fuels. Other methods of lowering emissions from waste treatment and disposal include reducing the volume of waste reaching landfills through combustion or recycling, and capturing methane generated during anaerobic decomposition of organic material in wastewater.

The 403 waste treatment and disposal projects reported for 2002 accounted for 2,514,696 metric tons of direct methane emission reductions and 1,003,323 metric tons of indirect reductions (Table 18). Of the 403 projects reported, 390 achieved methane emission reductions at landfills by capturing methane from landfill gas generated at waste disposal sites, 6 lowered emissions through diversion of wastes that would have emitted methane during decomposition, and 7 captured methane from wastewater treatment facilities.

Recovery of Landfill Gas

As waste decomposes in a landfill it produces a biogas that is approximately 50 percent carbon dioxide and 50 percent methane. As a result, landfill gas is a potentially valuable source of energy, with a heat content of about 500 British thermal units (Btu) per cubic foot, or about half that of commercially marketed natural gas. Because

of its relatively low Btu content and the presence of several impurities, the typical method for using landfill gas is to burn it for electricity generation rather than upgrading it for sale to a pipeline. The electricity generated is then used on site or sold to the grid. The process lowers methane emissions and reduces consumption of other fuels for electricity generation. When the electricity generated displaces oil- or coal-fired generation, carbon dioxide emissions are reduced. More recently, higher natural gas prices have resulted in an increasing number of projects that involve piping landfill gas for direct use in medium-Btu boilers, which also displaces fossil fuels.

For the 390 landfill gas recovery projects reported for 2002, reported direct methane emission reductions totaled 2,476,935 metric tons and indirect reductions totaled 623,757 metric tons methane. Of the projects reported, 167 recovered landfill methane for energy, 170 simply flared the gas, 51 included both recovery for energy and flaring, and 2 reported other activities.

Waste Diversion

When waste is diverted from a landfill through recycling, source reduction, or waste combustion, methane emissions that would have resulted when the waste decomposed at a landfill are avoided. Six such projects were submitted to the Voluntary Reporting Program on Form EIA-1605 for 2002 under the category of waste treatment and disposal. The preponderance of the methane emission reductions reported for waste diversion are indirect, because they typically occur at a landfill where diverted waste would have decomposed to produce methane, rather than at the site of the waste diversion activities. Total indirect reductions for the six projects were 366,496 metric tons methane. The majority of the reductions were reported by IWSA, which reported reductions associated with the combustion of waste at facilities owned by its members across the United States. IWSA's total reported reduction of methane emissions in 2002 was 341,705 metric tons. There were also many recycling projects reported under project types other than waste treatment and disposal that showed reductions in methane emissions (see box on page 53).

Reducing Methane Emissions from Wastewater Treatment Plants

When wastewater is treated under anaerobic conditions, the decomposition of its organic portion yields methane. Like methane generated from waste at landfills, the methane generated from wastewater treatment may be captured and either flared or used as an energy resource. Because captured methane has value as an energy resource, operators may use an anaerobic digester to treat the wastewater and maximize methane generation. Seven projects to capture methane generated from wastewater treatment were reported for 2002, with total reported direct reductions of 38,512 metric tons methane and indirect reductions of 13,070 metric tons methane. Ninety-eight percent of the direct reductions were reported for a Los Angeles County Sanitation District project, and all the indirect reductions were reported for two projects sponsored by FirstEnergy.

Reducing Emissions from Energy Production and Consumption

Reducing Emissions from Coal Mines

As coal is formed from organic material by natural chemical and physical processes, methane is also created. The methane is stored in the pores (open spaces) of the coal itself and in cracks and fractures in the coalbed.

Table 18. Methane Emission Reductions from Waste Treatment and Disposal Projects Reported on Form EIA-1605, Data Years 1994-2002
(Metric Tons Methane)

Reduction and Project Type	1994	1995	1996	1997	1998	1999	2000	2001(R)	2002
Direct Reductions	*	619	128,449	135,639	484,673	966,785	2,171,501	2,117,166	2,514,696
Landfill Gas Recovery	*	619	128,449	135,340	451,445	921,666	2,134,007	2,079,613	2,476,935
Wastewater Treatment	—	—	—	298	33,267	40,763	37,532	37,591	38,512
Waste Combustion	—	—	—	—	-39	4,356	-38	-38	-751
Indirect Reductions	99,431	1,061,691	1,142,877	449,595	644,739	815,344	884,484	1,003,287	1,003,323
Landfill Gas Recovery	99,431	111,293	250,480	298,335	470,880	575,484	612,862	701,901	623,757
Wastewater Treatment	—	1	*	—	4,714	19,648	12,662	13,060	13,070
Waste Combustion	0	950,397	892,397	151,259	169,145	220,212	258,960	288,326	366,496

*Less than 0.5 metric ton.
(R) = revised.
Source: Energy Information Administration, Form EIA-1605.

Materials Management Projects

"Materials management" is a crosscutting category that can encompass a variety of greenhouse gas and emission sources, and may include any of the following activities:

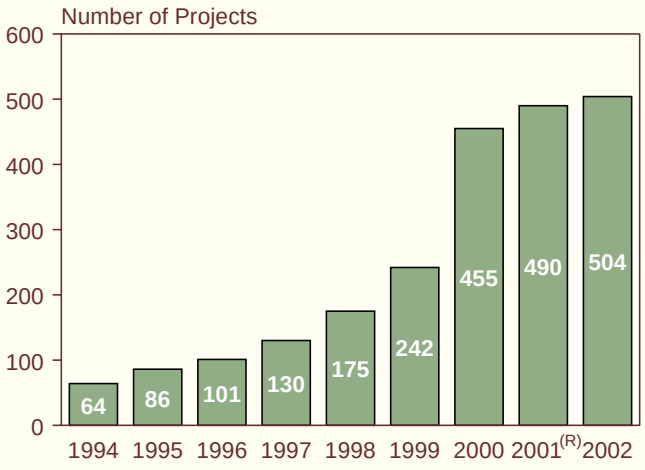
- Use of biomass fuels, such as wood waste, which reduces carbon dioxide emissions by displacing fossil fuels
- Avoidance of methane emissions from the decay of waste materials in landfills, wastewater treatment plants, and other waste management systems through activities such as recovery of methane from landfills or from anaerobic digesters treating municipal sewage, agricultural wastes, or animal manure, and diversion of municipal solid waste from landfills to waste-to-energy systems
- Recycling of halogenated substances, such as sulfur hexafluoride, hydrofluorocarbons, chlorofluorocarbons, and hydrochlorofluorocarbons
- Recycling and source reduction of solid waste, which reduce methane emissions from municipal landfills and reduce emissions of carbon dioxide and other gases associated with the production of virgin materials displaced by the materials recycled
- Reuse of coal ash as a substitute for Portland cement in concrete, which reduces carbon dioxide emissions from the manufacture of the cement.

Reporting of materials management activities on Form EIA-1605 increased more than sevenfold from 1994 to 2002. A total of 504 projects were reported for 2002, 3 percent more than were reported for 2001 (see figure).

Landfill gas recovery accounted for most (77 percent) of the 504 materials management projects reported for 2002. In addition to 14 other methane emission avoidance projects reported, other materials management projects included coal ash reuse (33), recycling and source reduction of solid waste (33), recycling of halogenated substances (18), and biomass burning (16).

The emission reductions reported for materials management projects are shown in the table below. For 2002, reported net reductions in direct emissions were 50.4 million metric tons carbon dioxide equivalent, representing 19 percent of the total direct reductions reported. Reported indirect reductions were 49.9 million metric tons carbon dioxide equivalent, representing 63 percent of the total indirect reductions reported. Most of the reductions (98 percent of the direct and 81 percent of the indirect reductions) are associated with methane avoidance activities discussed in this chapter.

Materials Management Projects Reported on Form EIA-1605, Data Years 1994-2002



Source: Energy Information Administration, Form EIA-1605.

Reported Emission Reductions from Materials Management Projects by Project Type and Type of Reduction, Data Year 2002

(Metric Tons Carbon Dioxide Equivalent)

Project Type	Number of Projects	Direct Reductions	Indirect Reductions
Biomass Burning	16	507,226	107,631
Methane Emission Avoidance			
Landfill Gas Recovery	390	56,776,317	15,833,637
Municipal Waste Combustion	6	-9,476,666	24,062,371
Wastewater Treatment	7	885,603	380,384
Agricultural Waste	1	180	1,489
Total	*404*	*48,185,433*	*40,277,881*
Halogenated Substances	18	1,578,631	127
Recycling and Source Reduction of Solid Waste	33	83,743	3,939,043
Coal Ash Reuse	33	0	5,579,042
Total	**504**	**50,355,034**	**49,903,724**

Source: Energy Information Administration, Form EIA-1605.

As coal is mined, the pressure surrounding the stored methane decreases, allowing much of it to be released into the operating coal mine. Because methane in concentrations of 5 to 15 percent is explosive, mine operators use large fans to provide a steady airflow across the mine face and ventilate the mine shaft. Some very gassy mines must also employ degasification wells to remove methane before or after mining so that it does not enter the mine. Because methane is a valuable energy source, most of the mines with degasification systems now inject the methane into gas pipelines or use it to generate electricity or heat.

For 2002, 18 projects to reduce methane emissions from coal mines were reported on Form EIA-1605, with total direct emission reductions of 567,088 metric tons and indirect reductions of 96 metric tons methane (Table 19). Jim Walters Resources reported direct reductions of 129,551 metric tons methane from gob well degasification, and U.S. Steel Mining Company reported direct methane reductions of 116,750 metric tons methane from its two projects.

Reducing Emissions from Natural Gas Production, Transmission, and Distribution

Methane is the principal constituent of natural gas (about 95 percent of the mixture). Methane emissions from natural gas production, processing, transmission, and distribution are generally process related, with normal operations, routine maintenance, and system upsets being the primary contributors. Emissions vary greatly from facility to facility and are largely a function of operation and maintenance procedures and equipment conditions. Thus, methane emissions can be reduced by replacing leaky system components, improving operations and maintenance, and limiting routine venting procedures. Twenty-one such projects were reported for 2002, with total direct emission reductions of 230,066 metric tons methane. No indirect reductions were reported. Two of NIPSCO's Natural Gas STAR projects were responsible for 169,255 metric tons of direct methane emission reductions, or 74 percent of the total for natural gas projects.

Reducing Emissions from Agriculture

Three projects reported for 2002 focused on reducing methane emissions from agricultural activities, but only two of them reported emission reductions. As the purchaser of the electricity from one project, FirstEnergy reported indirect methane emission reductions of 73 metric tons from Mason Dixon Farms. AES reported an indirect reduction of 919 metric tons methane from improving feed supplements for cattle in India and reducing emissions from enteric fermentation. The remaining project was a study on reducing emissions from rice cultivation, financed by Reliant Energy (formerly Houston Lighting and Power Company), for which reductions were not estimated.

Federal Voluntary Programs To Reduce Methane Emissions

The U.S. Government sponsors a number of voluntary programs specifically targeted to reduce methane emissions. Most frequently cited by reporters to the Voluntary Reporting Program are the U.S. Environmental Protection Agency's Landfill Methane Outreach Program (LMOP), Coalbed Methane Outreach Program (CMOP), and Natural Gas STAR Program. In addition, reducing methane is an effective method for meeting the reduction targets adopted by utilities under the U.S. Department of Energy's Climate Challenge voluntary program. The number of reported methane reduction projects associated with Federal voluntary programs has increased more than 13-fold since 1994, with a particularly large increase in the number of projects associated with the LMOP. Of the 403 waste treatment and disposal projects reported to the Voluntary Reporting Program for 2002, 307 (76 percent) were associated with the LMOP (Table 20).

Table 19. Methane Emission Reductions from Natural Gas Systems and Coal Mining Reported on Form EIA-1605, Data Years 1994-2002
(Metric Tons Methane)

Reduction and Project Type	1994	1995	1996	1997	1998	1999	2000	2001	2002
Direct Reductions	**19,687**	**7,714**	**279,766**	**242,040**	**893,927**	**595,311**	**518,590**	**657,894**	**797,154**
Coal Mining	13,767	4,191	271,549	232,131	885,807	581,307	505,941	538,285	567,088
Natural Gas Systems	5,920	3,522	8,217	9,909	8,121	14,004	12,648	119,609	230,066
Indirect Reductions	**—**	**3,543**	**4,039**	**5,439**	**7,603**	**6,565**	**6,785**	**96**	**96**
Coal Mining	—	278	893	2,285	1,568	528	747	96	96
Natural Gas Systems	—	3,265	3,146	3,154	6,035	6,036	6,038	0	0

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

Table 20. Number of Reported Methane Reduction Projects Associated with Other Federal Voluntary Programs, Data Years 1994-2002

Voluntary Program	1994	1995	1996	1997	1998	1999	2000	2001(R)	2002
Climate Challenge	22	27	32	36	34	39	42	34	34
Landfill Methane Outreach Program	6	8	29	32	90	116	309	359	307
Coalbed Methane Outreach Program	1	1	2	2	10	11	6	9	9
Natural Gas STAR	7	9	11	6	5	7	7	14	17
Other	0	6	2	2	1	3	4	5	6
Total	**30**	**42**	**64**	**65**	**132**	**164**	**354**	**407**	**405**

(R) = revised.
Note: Totals may not equal sum of components, because some projects are associated with more than one voluntary program.
Source: Energy Information Administration, Form EIA-1605.

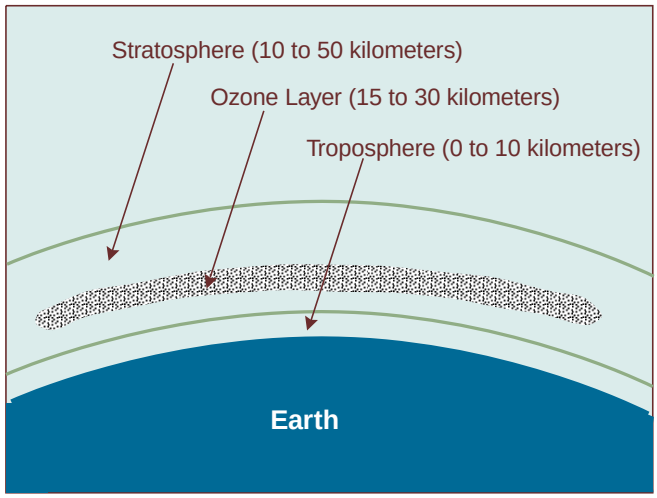
6. HFCs, PFCs, and Sulfur Hexafluoride

U.S. Emissions of HFCs, PFCs, and Sulfur Hexafluoride

Halogenated substances are chemicals that have been engineered for a variety of industrial uses. Some are greenhouse gases with high global warming potentials (GWPs) relative to the GWP of carbon dioxide and, therefore, may have an effect on global climate disproportionate to the relatively small volumes emitted.[56]

Emissions of halogenated substances can be classified into two groups. The first consists of chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and other chlorine-containing gases. These compounds absorb infrared radiation at wavelengths that would not otherwise be absorbed, making them potent greenhouse gases with direct radiative forcing effects hundreds or thousands of times greater than that of carbon dioxide. Because they contain chlorine, however, these substances also tend to destroy the ozone layer, located in the middle to upper stratosphere (Figure 14), which absorbs damaging ultraviolet radiation from the sun. Because ozone is a greenhouse gas, the reaction tends to offset the net warming effects of the chlorine-containing halogens to varying degrees. As a result, their effective GWPs are difficult to determine.

Figure 14. Earth's Atmospheric Layers



Source: U.S. Environmental Protection Agency.

CFC production ceased in January 1996 in accordance with the Copenhagen Amendments to the Montreal Protocol[57] (except for production of CFCs used in metered dose inhalers for asthma patients). In addition, all HCFC production is required to be phased out by 2030. The United Nations Framework Convention on Climate Change (UNFCCC) excludes from its provisions gases covered by the Montreal Protocol and, therefore, does not address CFCs and HCFCs.

The halogenated substances in the second group, which are the focus of this chapter, include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These compounds also absorb infrared radiation that would not otherwise be absorbed in the troposphere, and they have relatively high radiative forcing impacts. In contrast to the chlorine-containing halogenated substances, these compounds do not destroy ozone. Thus, their estimated GWPs, expressed in metric tons carbon dioxide equivalent, can be more accurately evaluated. The Kyoto Protocol to the UNFCCC explicitly lists HFCs, PFCs, and SF_6 as greenhouse gases affected by its provisions.

In 2002, U.S. emissions of HFCs, PFCs, and SF_6 were estimated to be 120.6 million metric tons carbon dioxide equivalent, a 24-percent increase over 1990 levels, primarily due to increases in HFC emissions.[58] Emissions of HFCs, which are used as replacements for CFCs as blowing agents, refrigerants, solvents, and in automobile air conditioners, overall have been growing since 1990 (Figure 15). In turn, emissions of CFCs are decreasing, according to recent estimates published by the Energy Information Administration.[59] PFCs are emitted as a byproduct of aluminum smelting and are used in

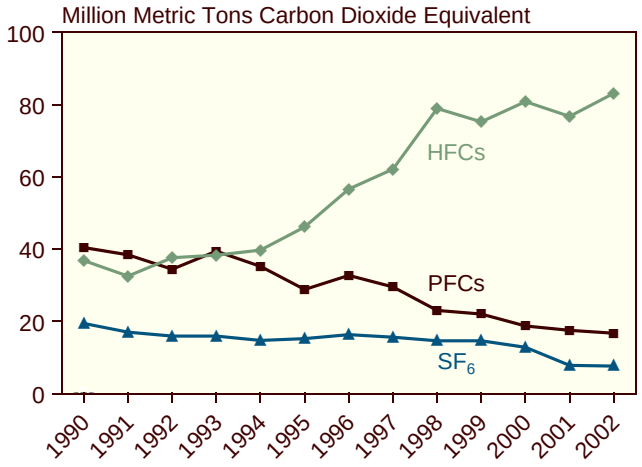
[56]Global warming potentials from Intergovernmental Panel on Climate Change, *Climate Change 2001: The Scientific Basis* (Cambridge, UK: Cambridge University Press, 2001), Table 6.7, pp. 388-389.

[57]The Montreal Protocol on Substances that Deplete the Ozone Layer is an international agreement, signed by most of the industrialized nations, to substantially reduce the use of CFCs. Signed in January 1989, the original document called for a 50-percent reduction in CFC use by 1992 relative to 1986 levels. The subsequent London Agreement called for a complete elimination of CFC use by 2000. The Copenhagen Agreement, which called for a complete phaseout by January 1, 1996, was implemented by the U.S. Environmental Protection Agency.

[58]Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), web site www.eia.doe.gov/oiaf/1605/1605a.html.

[59]Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2002), web site www.eia.doe.gov/oiaf/1605/1605a.html. Estimates of CFC, HFC, PFC, and SF_6 emissions are based on data obtained from the U.S. Environmental Protection Agency.

Figure 15. Estimated U.S. Emissions of HFCs, PFCs, and Sulfur Hexafluoride, 1990-2002



Source: Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2002), Table 30, p. 71.

semiconductor manufacturing as etchants and cleaning agents. SF_6 is used primarily as an insulator in electricity transmission and distribution systems and in magnesium casting. Emissions of both PFCs and SF_6 have fallen since 1990.

Projects Reported

For the 2002 data year, 31 entities reported on 63 projects that reduced emissions of HFCs, PFCs, and SF_6—3 more reporters and 5 more projects than were reported for 2001 (Table 21). Of the 63 projects reported in this category, 19 (30 percent) included direct reductions of SF_6 emissions, and 3 reported zero direct reductions of SF_6 emissions. Four entities reported on 4 projects that included direct reductions in emissions of PFCs (perfluoroethane and perfluoromethane). One entity reported on a project to reduce direct emissions of HFC-134a (tetrafluoroethane) but provided no data on reductions for 2002. Fourteen of the 31 entities reporting in this category reported on 16 projects that included indirect reductions of PFC emissions. Two entities reported on 3 projects for which no data on 2000 reductions of PFC emissions were provided. One entity reported on a project to reduce indirect emissions of SF_6 and HFC-134a.

Twenty-seven of the 31 entities reporting projects to reduce emissions of HFCs, PFCs, and SF_6 for 2002 were electric utilities; two were aluminum smelters (Alcan Primary Metals Group–Sebree Works and Noranda Aluminum, Inc.); one was a local government in New York State (Madison County Department of Solid Waste & Sanitation); and one was from the electronic equipment industry (Lucent Technologies, Inc.).

Sixteen of the 27 electric utilities that reported projects in this category were participants in the Climate Challenge Program sponsored by the U.S. Department of Energy (DOE). Other voluntary programs with which the projects reported in this category were affiliated include the Voluntary Aluminum Industrial Partnership, the Waste Wise Program, Rebuild America, and the Sulfur Hexafluoride Emissions Reduction Partnership for Electric Power Systems.

For 2002, emissions avoidance and recycling of halogenated substances were two of the most frequently reported project types (24 and 18 projects reported, respectively), followed by substitution of other chemicals (6 projects reported) and the destruction of halogenated substances (1 project reported). Reductions in PFC emissions were also reported for 21 post-consumer waste recycling projects in which aluminum was one of the materials collected and recycled (Table 21).

Table 21. Number of Projects Reported on Form EIA-1605 for Halogenated Substances, Data Years 1994-2002

Project Type	1994	1995	1996	1997	1998	1999	2000	2001	2002
General	0	1	0	1	0	0	0	0	0
Reclamation: Recycling	7	10	10	14	15	15	18	16	18
Reclamation: Destruction	0	0	1	1	0	1	1	1	1
Substitution	1	5	7	7	8	9	9	6	6
Emissions Avoidance	3	6	8	13	17	16	23	23	24
Use of Improved Appliances	0	1	1	1	1	1	1	0	0
Other Projects/Activities	1	1	0	0	0	0	0	0	0
PFC Reductions from Materials Recycling	0	0	0	4	7	10	20	19	21
Total Number of Projects	**13**	**21**	**22**	**33**	**42**	**46**	**63**	**58**	**63**

Note: Project totals may not equal sum of components because some projects may be counted in more than one category.
Source: Energy Information Administration, Form EIA-1605.

Direct reductions of HFC, PFC, and SF_6 emissions were reported by 22 entities for 23 projects, totaling 6.6 million metric tons carbon dioxide equivalent (Table 22), and 1 entity reported a project that included direct reductions of HFC emissions but did not provide data for 2002. Also for 2002, 15 entities reported on 24 projects that included data on indirect reductions of PFC emissions totaling 36,752 metric tons carbon dioxide equivalent. One of those entities also reported indirect reductions of SF_6 emissions that amounted to 81 metric tons carbon dioxide equivalent.

Emission Reductions by Gas

Total reported direct reductions of halogenated substance emissions were 6.6 million metric tons carbon dioxide equivalent for 2002, representing an 8-percent increase from the 6.1 million metric tons carbon dioxide equivalent reported for 2001. Reported direct reductions of PFC emissions totaled 3.6 million metric tons carbon dioxide equivalent and accounted for the highest percentage (54 percent) of direct reductions in emissions of halogenated substances reported for 2002 (Table 22). Reported direct reductions of SF_6 emissions for 2002 increased by 0.6 million metric tons carbon dioxide equivalent (23 percent) from those reported for 2001 and were 35 times the value reported for 1994 (Table 23). Consolidated Edison of New York, Inc., Southern Company, and TXU together accounted for 73 percent of the total reported direct reductions in SF_6 emissions for 2002 and 19 percent of the total reported direct reductions of HFCs, PFCs, and SF_6 emissions combined (Table 24). Total reported indirect reductions of halogenated substances in 2002—primarily PFCs—were 36,832 tons carbon dioxide equivalent.

Hydrofluorocarbons

HFCs are used primarily as replacements for ozone-depleting substances such as CFCs and HCFCs. U.S. emissions of HFCs were estimated at 83 million metric tons carbon dioxide equivalent in 2002, a 126-percent increase over 1990 levels.[60] HFCs are used to replace CFCs as blowing agents, in automobile air conditioners and refrigerators, and in other manufacturing applications, where emissions result from system leaks. In the semiconductor industry, HFCs are also used in plasma etching and chemical vapor deposition processes. HFC-23 is a byproduct of HCFC-22 manufacturing. The Tennessee Valley Authority reported on a project that included direct reductions of HFC-134a, but for which no reduction data have been available since 1998.

Perfluorocarbons

U.S. emissions of PFCs in 2002 totaled 7.6 million metric tons carbon dioxide equivalent.[61] The principal source of PFC emissions is aluminum smelting. PFCs are produced during aluminum production when the alumina content of the electrolytic bath falls below critical levels required by the electrolytic effect. The resulting electrical upset in the reduction cell is manifested as a rapid voltage increase. The gases formed accumulate at the anode of the reduction cell (hence the name "anode effect"). PFCs are also used in some semiconductor manufacturing processes and, consequently, may be emitted from fabrication plants.

For 2002, two companies (Alcan Primary Metals Group–Sebree Works and Noranda Aluminum, Inc.) reported reductions in direct emissions of PFCs totaling 3.6 million metric tons carbon dioxide equivalent, which accounted for 54 percent of total reported project-level

Table 22. Reductions of Hydrofluorocarbon, Perfluorocarbon, and Sulfur Hexafluoride Emissions Reported on Form EIA-1605, Data Year 2002

Gas	Emission Reductions Reported			
	Metric Tons of Gas		Metric Tons Carbon Dioxide Equivalent	
	Direct	Indirect	Direct	Indirect
HFC-134a	—	*	—	47
Perfluoromethane (CF_4)	528.7	5.5	3,013,359	31,183
Perfluoroethane (C_2F_6)	46.1	0.5	547,997	5,523
Sulfur Hexafluoride (SF_6)	137.1	*	3,043,682	81
Total	**NA**	**NA**	**6,605,037**	**36,832**

*Less than 0.05 metric tons.
NA = not applicable. — = none reported.
Sources: Data from Energy Information Administration, Form EIA-1605. Global warming potentials from Intergovernmental Panel on Climate Change, *Climate Change 2001: The Scientific Basis* (Cambridge, UK: Cambridge University Press, 2001), Table 6.7, pp. 388-389.

[60]Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), web site www.eia.doe.gov/oiaf/1605/1605a.html.
[61]Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), web site www.eia.doe.gov/oiaf/1605/1605a.html.

direct reductions in emissions of PFCs, HFCs, and SF_6 in 2002 (Table 22). During 2002, efforts by Noranda to reduce PFC emissions were focused on controlling the amount of alumina in solution to avoid anode effects and monitoring the process more closely to stop or correct them expeditiously. According to Noranda's report, perfluoromethane emissions were reduced by 2,633,400 metric tons carbon dioxide equivalent and perfluoroethane emissions by 547,400 metric tons carbon dioxide equivalent. Alcan reported direct reductions of perfluoromethane emissions totaling 376,103 metric tons carbon dioxide equivalent. Additionally, City Public Service and Los Angeles Department of Water and Power reported materials recycling projects (see box in Chapter 5, page 53) that included direct reductions of PFC emissions totaling 4,453 metric tons carbon dioxide equivalent.

The U.S. Environmental Protection Agency sponsors the Voluntary Aluminum Industrial Partnership, which seeks to reduce emissions of PFCs, carbon tetrachloride, and SF_6 during primary aluminum processing. For 2002, both Alcan and Noranda reported participation in the program.

Sulfur Hexafluoride

U.S. emissions of SF_6 in 2002 were 16.7 million metric tons carbon dioxide.[62] SF_6 is used as an insulator for circuit breakers, switch gear, and other electrical equipment and as a cover gas in magnesium smelting. It is also emitted during the aluminum smelting process. It has a very high GWP—22,200 times the warming effect of carbon dioxide per ton emitted. Therefore, even small amounts of SF_6 can play a disproportionate role in U.S. contributions to climate change.[63]

For 2002, 19 companies—including Allegheny Energy, Inc., American Electric Power, Inc., Cinergy Corp., City Public Service, City Utilities of Springfield, Consolidated Edison of New York, Inc., Constellation Energy Group, Inc., Duke Energy Corporation, Entergy Services, Inc., FirstEnergy Corporation, FPL Group, Minnesota Power, National Grid USA, NiSource/NIPSCO, PG&E Corporation, Southern California Edison Co., Southern Company, Tucson Electric Power Company, and TXU—claimed direct reductions of SF_6 emissions that totaled 3,043,682 metric tons carbon dioxide equivalent, accounting for 46 percent of the total reported project-level direct reductions in emissions of PFCs, HFCs, and SF_6 (Table 22).

All of the largest reductions in SF_6 emissions reported for 2002 were direct emission reductions. Consolidated Edison of New York, Inc., reported the largest single reduction in SF_6 emissions for 2002 at 1,437,995 metric tons carbon dioxide equivalent, followed by the Southern Company (537,240 metric tons), TXU (291,454 metric tons), PG&E Corporation (189,758 metric tons), and Southern California Edison Company (163,767 metric tons carbon dioxide equivalent). These five project-level claims of emission reductions combined to account for 85 percent (2,620,214 metric tons carbon dioxide equivalent) of total reported project-level direct reductions of SF_6 emissions for 2002 and 22 percent of total project-level direct emission reductions claimed for HFCs, PFCs, and SF_6 combined (Table 24).

[62]Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), web site www.eia.doe.gov/oiaf/1605/1605a.html.

[63]Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), web site www.eia.doe.gov/oiaf/1605/1605a.html.

Table 23. Reductions in Emissions of Halogenated Substances Reported on Form EIA-1605 by Type of Reduction, Data Years 1994-2002
(Metric Tons of Gas)

Gas and Reduction Type	1994	1995	1996	1997	1998	1999	2000	2001	2002
HFC-134a									
Direct	**	**	**	**	-1.3	-1.3	—	—	—
Indirect	—	—	—	—	—	—	—	—	*
HFC-152a									
Direct	—	—	127.0	—	—	—	—	—	—
Indirect	—	—	—	—	—	—	—	—	—
Perfluoromethane (CF_4)									
Direct	465.8	431.0	486.1	482.0	507.0	498.4	479.8	523.3	528.7
Indirect	—	—	—	0.5	0.9	0.8	5.1	5.1	5.5
Perfluoroethane (C_2F_6)									
Direct	45.8	42.5	48.3	48.0	51.6	49.1	46.7	52.4	46.1
Indirect	—	—	—	0.1	*	0.1	0.5	0.4	0.5
Sulfur Hexafluoride (SF_6)									
Direct	3.8	8.4	-3.2	23.3	28.1	26.8	63.4	111.5	137.1
Indirect	—	0.3	—	*	*	*	*	*	*

*Greater than zero but less than 0.05 metric tons of gas.
**Greater than -0.05 but less than zero metric tons of gas.
— = none reported.
Source: Energy Information Administration, Form EIA-1605.

Table 24. Largest Project-Level Direct Reductions of Sulfur Hexafluoride Emissions Reported on Form EIA-1605 by Reporter, Data Year 2002

Reporter	Direct SF_6 Emission Reductions Reported		Percent of Total Reported Direct Reductions of Halogenated Substance Emissions[a]
	Metric Tons of Gas	Metric Tons Carbon Dioxide Equivalent	
Consolidated Edison Company of New York, Inc.	64.8	1,437,995	12.2
Southern Company	24.2	537,240	4.5
TXU	13.1	291,454	2.5
PG&E Corporation	8.5	189,758	1.6
Southern California Edison Co.	7.4	163,767	1.4
Duke Energy Corporation	5.0	111,000	0.9
FPL Group	4.8	107,265	0.9
Tucson Electric Power Company	3.5	77,901	0.7
NiSource/NIPSCO	2.9	63,842	0.5
Cinergy Corp.	2.7	60,218	0.5
FirstEnergy Corporation	1.0	22,808	0.2
National Grid USA	0.7	15,508	0.1
American Electric Power, Inc.	0.4	8,408	0.1
City Public Service	0.3	6,112	0.1
Reported Total	**139.3**	**3,093,276**	**26.2**

[a]Based on metric tons carbon dioxide equivalent.
Note: Totals may not equal sum of components due to independent rounding.
Sources: Energy Information Administration, Form EIA-1605. Global warming potentials from Intergovernmental Panel on Climate Change, *Climate Change 2001: The Scientific Basis* (Cambridge, UK: Cambridge University Press, 2001), Table 6.7, pp. 388-389.

7. Entity-Level Reporting and Future Commitments

Overview

The Voluntary Reporting Program permits three distinct types of emissions reporting:

- Entity-level emissions and reductions, defined as the emissions and reductions of an entire organization, usually defined as a corporation
- Project-level emissions and reductions, defined as the emission reductions consequences of a particular action
- Commitments to take action to reduce emissions in the future.

Chapters 2 through 6 of this report cover project-level emissions. This chapter covers entity-level emissions, emission reductions, and commitments to reduce emissions in the future. Entity reporting and project reporting are not mutually exclusive. They correspond to different views of the appropriate answer to the question, "What is a reduction?" Most (171, or 75 percent) of the 227 nonconfidential participants in the program for the 2002 data year reported project-level information on emissions and/or reductions, and 114 (50 percent) reported entity-level information. Fifty-nine (26 percent) of all the participants in the program reported both entity-level information and project-level information. Thus, 52 percent of the entity-level reporters also chose to report project-level information on emissions and/or emission reductions. Fifty-five firms (24 percent of reporters) reported entity-level information only, whereas 112 (49 percent) submitted only project-level information. In addition, 79 entities, or 35 percent of all participants in the program, reported formal commitments to reduce future greenhouse gas emissions, to take action to reduce emissions in the future, or to provide financial support for activities related to greenhouse gas reductions.

Entity-Level Reporting

Who Reported

Electric power producers accounted for 44 of the 114 entity-level reporters. They included Allegheny Energy, PG&E, PacifiCorp, the Southern Company, the Tennessee Valley Authority (TVA), and most of the largest electric utilities in the United States. In addition, three subsidiaries of the AES Corporation (an independent power producer) reported on domestic power plants with emissions offset by international forestry projects. The remaining 70 entity-level reporters included an aluminum smelter (Alcan Primary Metals Group-Sebree Works), six plants of CommScope (a designer and manufacturer of cables for telecommunications applications), two semiconductor manufacturers (Lucent Technologies, Inc., and Motorola Austin), and several large manufacturers (DaimlerChrysler, Toyota Motor North America Inc., Ford, GM, IBM, Johnson & Johnson, and Rolls-Royce Corporation). Also reporting at the entity level were the Lehigh Cement Company, an oil company (Sunoco, Inc.), a chemical company (the Dow Chemical Company), an aircraft manufacturer (Sikorsky Aircraft Corporation), textile manufacturers (including two plants of Hanes Dye & Finishing, four plants of M.J. SOFFE Company, four plants of National Spinning, Inc., and the Valdese Manufacturing Company), a trade association (Integrated Waste Services Association [IWSA]), the Miller Brewing Company's Eden, NC, Facility, and Bethlehem Steel Corporation.

Reported Emissions

Total 2002 entity-level direct emissions of greenhouse gases reported to the Voluntary Reporting Program were 870 million metric tons carbon dioxide equivalent or 13 percent of total estimated U.S. emissions of greenhouse gases.[64] Total 2002 entity-level indirect emissions reported to the program were 107 million metric tons carbon dioxide equivalent, or 2 percent of total estimated U.S. emission of greenhouse gases. Reported entity-level direct carbon dioxide emissions for 2002 were 844 million metric tons, which represented 97 percent of reported direct emissions—weighted by global warming potential (GWP).

The single largest category of direct carbon dioxide emissions reported was the 863 million metric tons carbon dioxide emitted by stationary combustion sources, mostly electric utilities, which represented 99 percent of the total direct carbon dioxide emissions reported for 2002 (Table 25). The largest direct emissions reported were from the Tennessee Valley Authority, with emissions of 85 million metric tons carbon dioxide, followed by Cinergy Corporation (59 million metric tons), Duke Energy Corporation (58 million metric tons), and FPL

[64]Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003), web site web site www.eia.doe.gov/oiaf/1605/1605a.html.

Group (51 million metric tons) (Table 26). In addition, PacifiCorp, FirstEnergy Corporation, Allegheny Energy, Inc., DTE Energy/Detroit Edison, Entergy Services, Inc., Texas Genco, LP, the Dow Chemical Company, PG&E Corporation, and Florida Power Corporation each reported direct emissions of carbon dioxide in the range of 21 to 46 million metric tons for 2002.

Carbon dioxide also accounted for 94 percent of reported indirect emissions of greenhouse gases weighted by GWP. The single largest category of reported indirect emissions for 2002 was 101 million metric tons carbon dioxide resulting from the reporting entities' purchased power transactions. Manufacturers that purchase electricity usually view themselves as responsible for the electricity they consume and, consequently, for any reductions in the quantity of electricity consumed. Utilities, however, have adopted more diverse views. Most electric utilities view themselves as responsible only for the direct emissions from their stacks. This view is unambiguous, relatively easy to verify, and prevents the same emission from being reported by more than one utility; however, accounting for reductions in emissions caused by substitutions of purchased power for company-generated power adds complexity to the picture.

Any organization that reports indirect emissions and reductions is presented with a methodological problem: because the reporter does not control the source of emissions, the reporter may not have sufficient information

Table 25. Total Reported Entity-Level Carbon Dioxide Emissions by Type and Source, Data Year 2002
(Million Metric Tons Carbon Dioxide)

Type of Emission Source	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Direct Emissions													
Stationary Combustion	770.9	631.0	726.4	764.0	814.2	823.3	829.6	892.5	949.1	944.1	951.3	834.5	836.3
Transportation	0.7	0.2	0.3	0.3	0.7	0.8	0.8	0.9	0.9	0.9	0.9	1.1	1.1
Other Direct Sources	2.9	3.4	4.9	7.3	7.3	7.0	6.7	6.1	6.1	6.2	6.1	6.3	6.7
Total Direct	**774.5**	**634.7**	**731.5**	**771.5**	**822.3**	**831.1**	**837.1**	**899.5**	**956.1**	**951.3**	**958.4**	**841.9**	**844.0**
Indirect Emissions													
Purchased Power	67.8	61.7	59.7	65.5	66.1	71.4	86.0	114.9	96.6	100.1	105.6	106.5	100.9
Other Indirect Sources	374.2	365.3	369.4	370.5	372.0	366.6	360.0	352.5	345.3	340.8	0.2	0.2	0.2
Total Indirect	**442.0**	**427.0**	**429.0**	**436.0**	**438.1**	**438.0**	**446.0**	**467.4**	**441.8**	**440.8**	**105.8**	**106.7**	**101.1**
Electricity Wholesaling	8.0	13.5	8.1	7.0	4.2	5.7	-3.9	-51.3	-32.2	-24.5	-14.7	-12.7	36.5

Source: Energy Information Administration, Form EIA-1605.

Table 26. Largest Reported Entity-Level Direct Carbon Dioxide Emissions by Reporter and Source, Data Year 2002

Reporter	Emissions Source	Reported Direct Carbon Dioxide Emissions (Million Metric Tons)	Percentage of Total Reported Direct Emissions of All Greenhouse Gases
Tennessee Valley Authority	Stationary Combustion	85.3	8.7
Cinergy Corp.	Stationary Combustion	59.5	6.1
Duke Energy Corporation	Stationary Combustion	58.3	6.0
FPL Group	Stationary Combustion	51.5	5.3
PacifiCorp	Stationary Combustion	46.1	4.7
FirstEnergy Corporation	Stationary Combustion	43.9	4.5
Allegheny Energy, Inc.	Stationary Combustion	41.1	4.2
DTE Energy/ Detroit Edison	Stationary Combustion	38.8	4.0
Entergy Services, Inc.	Stationary Combustion	38.5	3.9
Texas Genco, LP	Stationary Combustion	38.1	3.9
Dow Chemical Company	Stationary Combustion	26.0	2.7
PG&E Corporation	Stationary Combustion	25.7	2.6
Florida Power Corporation	Stationary Combustion	21.1	2.2
Dynegy Midwest Generation Inc.	Stationary Combustion	20.0	2.0
Alliant Energy	Stationary Combustion	19.2	2.0
Total		**612.9**	**62.8**

Source: Energy Information Administration, Form EIA-1605.

to estimate emissions accurately. In the case of power purchases, firms that buy electricity may not always know precisely what emissions are associated with their purchases. Most reporters, however, reported only direct emissions. For those who reported indirect emissions, with a few exceptions, the impact of indirect emissions was generally small in comparison with the magnitude of direct emissions. Only a few companies reported direct emissions of other greenhouse gases at the entity level.

Reported direct emissions of gases other than carbon dioxide included 23 million metric tons carbon dioxide equivalent of methane, 1 million metric tons carbon dioxide equivalent of hydrofluorocarbons (HFCs), and 1 million metric tons carbon dioxide equivalent of sulfur hexafluoride. Reported direct emissions of nitrous oxide and perfluorocarbons (PFCs) were less than 1 million metric tons carbon dioxide equivalent each (Table 27).

Eleven companies reported entity-level direct emissions of methane for 2002, including Consol Coal Group, Jim Walter Resources, Inc., Peabody Holding Company, Inc., Dow Chemical Company, and Black Beauty Coal. These five entities together accounted for 88 percent of total reported entity-level direct emissions of other greenhouse gases for 2002 (Table 28). Only three participants in the program, Dow Chemical Company, Rochester Gas & Electric Company, and IWSA, reported direct emissions of nitrous oxide for 2002. The direct emissions of nitrous oxide reported by these three entities together accounted for less than 0.5 percent of total reported entity-level direct emissions of other greenhouse gases for 2002. In addition, two reporters (Alcan Primary Metals Group–Sebree Works and Dow Chemical Company) accounted for all direct emissions of perfluorocarbons reported, and seven companies (Dow Chemical Company, Duke Energy Corporation, Energy Services, Inc., NiSource/NIPSCO, Public Service Enterprise Group, Sacramento Municipal Utility District, and Southern Company) reported direct emissions of sulfur hexafluoride. Emissions of sulfur hexafluoride reported by these seven companies together accounted for 5 percent of total reported entity-level direct emissions of other greenhouse gases for 2002.

Reported Reductions

Entity-level reductions were, in general, much smaller than the corresponding emissions reported by participants in the Voluntary Reporting Program. Reported entity-level direct reductions totaled 209 million metric tons carbon dioxide equivalent for 2002, or 24 percent of all reported entity-level direct emissions. Reported entity-level indirect reductions totaled 36 million metric tons carbon dioxide equivalent, or 34 percent of all reported entity-level indirect emissions.

Reported entity-level direct emission reductions of carbon dioxide for 2002 totaled 131 million metric tons carbon dioxide (Table 29), equal to 2 percent of estimated total U.S. greenhouse gas emissions, and reported indirect emission reductions of carbon dioxide totaled 25 million metric tons. Reported direct reductions in emissions of other greenhouse gases for 2002 totaled 78

Table 27. Total Reported Entity-Level Emissions of Other Greenhouse Gases by Type of Emissions, Data Year 2002
(Million Metric Tons Carbon Dioxide Equivalent)

Gas and Type of Emissions	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Methane													
Direct	52.9	18.1	18.5	14.2	32.4	33.3	30.0	31.9	32.3	27.1	25.8	24.6	23.1
Indirect	2.1	2.1	2.1	2.1	2.0	1.9	1.9	1.8	1.7	1.6	0.4	0.4	0.3
Nitrous Oxide													
Direct	*	*	*	*	*	*	*	*	*	*	0.7	*	0.1
Indirect	17.3	18.1	19.0	19.8	20.5	20.4	19.9	19.3	18.6	17.9	*	*	*
Hydrofluorocarbons													
Direct	*	*	*	*	*	*	*	*	0.1	0.2	0.4	0.8	1.3
Indirect	*	*	0.1	2.2	4.9	5.4	5.0	5.2	5.2	5.2	5.2	3.9	5.6
Perfluorocarbons													
Direct	0.5	0.5	0.5	0.5	0.3	0.2	0.2	0.3	0.2	0.1	0.1	0.2	0.2
Sulfur Hexafluoride													
Direct	0.4	0.5	0.5	0.5	1.6	1.7	1.7	1.4	1.1	0.6	1.1	1.2	1.2
Total													
Direct	**53.8**	**19.1**	**19.5**	**15.2**	**34.3**	**35.3**	**32.0**	**33.6**	**33.6**	**28.0**	**28.0**	**26.8**	**25.7**
Indirect	**19.5**	**20.2**	**21.2**	**24.1**	**27.3**	**27.7**	**26.8**	**26.3**	**25.5**	**24.8**	**5.6**	**4.3**	**5.9**

*Less than 0.05 million metric tons.
Source: Energy Information Administration, Form EIA-1605.

million metric tons carbon dioxide equivalent, and indirect emissions of other greenhouse gases totaled 11 million metric tons (Table 30).

The largest single direct reduction reported for 2002 was by Waste Management, Inc., at 30 million metric tons carbon dioxide equivalent (reductions of methane emissions from other direct sources), followed by TVA at 26 million metric tons carbon dioxide, FPL Group at 19 million metric tons carbon dioxide (direct reductions from stationary combustion sources), Consol Coal Group at 19 million metric tons carbon dioxide equivalent (reductions in methane from other direct sources), Southern Company at 15 million metric tons carbon dioxide, Duke Energy Corporation at 13 million metric tons carbon dioxide, and FirstEnergy Corporation at 11 million metric tons carbon dioxide equivalent (direct reductions from stationary combustion sources). These seven entity-level claims of reductions in direct emissions combined accounted for 64 percent (133 million metric tons) of total reported entity-level claims of direct emission reductions for 2002 (Table 31).

Most of the emission reductions reported were direct reductions attributable to energy-related carbon dioxide, although IWSA reported that its members' combustion of municipal solid waste reduced indirect emissions of carbon dioxide by 15 million metric tons and indirect emissions of methane by 8 million metric tons carbon dioxide equivalent. In addition, FPL Group and Southern Company reported indirect reductions of carbon dioxide emissions at 4 million and 3 million metric tons, respectively (Table 32). These four reductions combined to account for 30 million metric tons carbon dioxide equivalent or 62 percent of total reported positive indirect emission reductions at the entity level for 2002.[65]

Most of the larger reported reductions (direct and indirect) were computed on the basis of "modified" reference cases—i.e., the reporter indicated that emissions were lower than they would have been without the actions taken (Tables 31 and 32). TVA, for example, used a generation planning model to calculate what its emissions from 1990 through 2002 would have been if it had used the set of generating units operational in 1990 at the 1990 capacity factors and heat rates. Since 1990, TVA has greatly expanded nuclear generation. Browns Ferry Unit 2 returned to service in 1991, Browns Ferry Unit 3 returned to service in 1995, and Watts Bar Unit 1 started commercial operation in 1996. TVA's reported carbon dioxide emissions from stationary combustion sources for 2002 were 11 million metric tons above 1990 levels but 26 million metric tons below what they would have been if the 1990 generation mix and heat rates had been used.

IWSA reported two sources of indirect reductions: (1) by burning municipal solid waste to generate electricity, its members made it possible for electric utilities to burn

Table 28. Largest Reported Entity-Level Direct Emissions of Other Greenhouse Gases by Reporter and Emissions Source, Data Year 2002

Reporter	Gas	Emissions Source	Reported Direct Emissions (Thousand Metric Tons Carbon Dioxide Equivalent)	Percentage of Total Reported Direct Emissions of Other Greenhouse Gases
Consol Coal Group	Methane	Other Direct	12,519.7	48.6
Jim Walter Resources, Inc.	Methane	Other Direct	4,907.1	19.1
Peabody Holding Company, Inc.	Methane	Other Direct	3,300.9	12.8
Dow Chemical Company	HFC-134a	Other Direct	1,248.1	4.8
Black Beauty Coal Company	Methane	Other Direct	1,082.2	4.2
Public Service Enterprise Group	Methane	Other Direct	724.9	2.8
Duke Energy Corporation	Sulfur Hexafluoride	Other Direct	346.3	1.3
Public Service Enterprise Group	Sulfur Hexafluoride	Other Direct	344.4	1.3
Cinergy Corp.	Methane	Other Direct	310.7	1.2
Entergy Services, Inc.	Sulfur Hexafluoride	Other Direct	305.7	1.2
Dow Chemical Company	Methane	Other Direct	179.4	0.7
Alcan Primary Metals Group-Sebree Works	Perfluoromethane	Other Direct	163.4	0.6
Southern Company	Sulfur Hexafluoride	Other Direct	111.0	0.4
Total			**25,543.9**	**99.3**

Source: Energy Information Administration, Form EIA-1605.

[65]Twenty-eight participants in the Voluntary Reporting Program reported negative indirect entity-level emission reductions (i.e., emission increases) for 2002.

less coal; and (2) if the municipal solid waste had not been burned, it could reasonably have been expected to be landfilled, and some portion of the landfilled waste would have decomposed anaerobically, producing methane emissions. Thus, IWSA reported that burning the waste reduced both fossil fuel burning and methane emissions on the part of others.

Thirty-three companies reported emission reductions or sequestration at the entity level using a "basic" reference case. A basic reference case is defined as total emissions in some baseline year—usually, but not always, 1990. In these cases, reductions were calculated as the difference between actual emissions in the data year and emissions in the baseline year. Of these 33 companies, 17 were

Table 29. Total Reported Entity-Level Carbon Dioxide Emission Reductions by Type and Source, Data Year 2002
(Million Metric Tons Carbon Dioxide)

Type of Reduction Source	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Direct Reductions												
Stationary Combustion . .	21.5	40.2	41.6	58.5	80.8	89.6	88.9	108.2	112.3	127.6	132.1	132.3
Transportation	*	*	*	*	*	*	-0.2	-0.2	-0.2	-0.2	-0.4	-0.3
Other Direct Sources. . . .	0.2	-1.2	-1.3	-1.4	-1.1	-0.9	-0.1	*	-0.2	*	-0.2	-0.6
Total Direct.	**21.7**	**39.0**	**40.2**	**57.2**	**82.0**	**87.7**	**88.6**	**108.0**	**111.9**	**127.4**	**131.5**	**131.3**
Indirect Reductions												
Purchased Power	*	-2.9	-4.4	-9.9	-8.2	-6.4	-6.0	-2.7	-4.1	-4.1	-3.6	-2.9
Other Indirect Sources . .	12.8	13.7	13.3	15.2	18.9	20.6	20.5	21.0	24.9	24.0	24.7	28.1
Total Indirect	**12.8**	**10.8**	**8.9**	**5.3**	**10.8**	**14.2**	**14.5**	**18.2**	**20.7**	**19.9**	**21.2**	**25.2**
Carbon Sequestered	**0.6**	**1.6**	**6.0**	**6.1**	**6.9**	**6.9**	**7.7**	**7.9**	**7.9**	**7.3**	**7.5**	**6.8**

*Less than 0.05 million metric tons.
Note: Negative numbers indicate increases in emissions.
Source: Energy Information Administration, Form EIA-1605.

Table 30. Total Reported Entity-Level Reductions in Emissions of Other Greenhouse Gases by Gas and Source, Data Year 2002
(Thousand Metric Tons Carbon Dioxide Equivalent)

Gas and Type of Reduction	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Methane												
Direct	5,904.6	8,094.7	16,751.0	22,862.4	33,213.9	38,974.4	44,274.5	49,123.9	54,850.0	60,818.7	70,329.8	77,530.9
Indirect	1,732.2	2,713.1	3,162.3	3,554.1	3,940.5	4,627.5	5,622.8	6,284.8	7,367.9	8,579.3	9,518.6	11,099.0
Nitrous Oxide												
Direct	-2.6	-2.7	-2.6	-2.4	-2.5	-2.2	-2.3	-4.8	-5.8	-669.2	-26.3	-44.7
Indirect	71.2	76.0	76.0	76.0	96.0	100.0	96.8	97.6	104.0	94.1	98.5	129.0
Hydrofluorocarbons												
Direct	—	—	—	*	1.5	-9.6	-18.3	-46.3	-193.9	-314.3	-713.1	-1,240.3
Indirect	—	—	—	—	—	—	—	—	—	—	—	—
Perfluorocarbons												
Direct	-0.2	31.2	31.3	87.4	104.5	122.6	78.8	182.3	249.1	229.8	365.0	369.5
Indirect	3.1	3.4	4.0	7.3	7.4	14.8	16.7	20.8	11.2	9.5	20.9	28.9
Sulfur Hexafluoride												
Direct	25.4	31.2	46.4	-126.0	-167.3	-203.9	304.6	688.5	685.5	683.5	859.0	1,143.3
Indirect	—	—	—	—	—	—	0.1	0.1	0.1	0.1	0.1	0.1
Total												
Direct	**5,927.1**	**8,154.4**	**16,826.2**	**22,821.4**	**33,150.2**	**38,881.4**	**44,637.3**	**49,943.7**	**55,584.9**	**60,748.4**	**70,814.5**	**77,758.7**
Indirect.	**1,806.5**	**2,792.4**	**3,242.3**	**3,637.4**	**4,043.9**	**4,742.3**	**5,736.4**	**6,403.3**	**7,483.2**	**8,683.1**	**9,638.2**	**11,257.0**

*Less than 0.05 thousand metric tons.
— = none reported.
Note: Negative numbers indicate increases in emissions.
Source: Energy Information Administration, Form EIA-1605.

electric power producers, including Consolidated Edison of New York, Inc., DTE Energy/Detroit Edison, Duke Energy Corporation, Florida Power Corporation, the Hawaiian Electric Company, PG&E Corporation, and the Tennessee Valley Authority. Also reporting entity-level emission reductions using a "basic" reference case were 16 reporters that were not electricity producers, including Consol Coal Group, Daimler/Chrysler Corporation, Dow Chemical Company, General Motors Corporation, International Truck and Engine Corporation, Lucent Technologies, Inc., Republic Metals Group, Rolls-Royce Corporation, and Toyota Motor North America, Inc.

For 2002, the Waste Management, Inc., reported the largest individual entity-level direct emissions reduction, which it calculated with a basic reference case, at 30 million metric tons carbon dioxide, accounting for 14 percent of total reported carbon dioxide equivalent direct reductions during 2002. This direct reduction (from other direct source activities of Waste Management, Inc.) consisted of reduced methane emissions. In

Table 31. Largest Individual Reported Entity-Level Direct Emission Reductions by Gas, Source, and Type of Reference Case Employed, Data Year 2002

Reporter	Gas	Source	Reference Case	Reported Direct Emission Reduction (Million Metric Tons Carbon Dioxide Equivalent)	Percent of Total Reported Direct Reductions
Waste Management, Inc.	CH_4	Other Direct	Basic	30.1	14.4
Tennessee Valley Authority	CO_2	Stationary Combustion	Modified	26.3	12.6
FPL Group	CO_2	Stationary Combustion	Modified	19.3	9.2
Consol Coal Group	CH_4	Other Direct	Basic	18.9	9.0
Southern Company	CO_2	Stationary Combustion	Modified	15.3	7.3
Duke Energy Corporation	CO_2	Stationary Combustion	Modified	12.8	6.1
FirstEnergy Corporation	CO_2	Stationary Combustion	Modified	10.7	5.1
Entergy Services, Inc.	CO_2	Stationary Combustion	Modified	8.0	3.8
KeySpan Energy Corporation	CH_4	Other Direct	Modified	7.8	3.8
Jim Walter Resources, Inc.	CH_4	Other Direct	Modified	5.5	2.6
Florida Power Corporation	CO_2	Stationary Combustion	Modified	5.4	2.6
Palmer Capital Corporation	CH_4	Other Direct	Modified	5.2	2.5
Constellation Energy Group, Inc.	CO_2	Stationary Combustion	Modified	5.1	2.4
Bethlehem Steel Corporation	CO_2	Stationary Combustion	Modified	4.9	2.3
NiSource/NIPSCO	CH_4	Other Direct	Modified	4.8	2.3
Public Service Enterprise Group	CO_2	Stationary Combustion	Modified	4.7	2.3
PG&E Corporation	CH_4	Other Direct	Basic	4.0	1.9
PG&E Corporation	CO_2	Stationary Combustion	Modified	2.6	1.3
Municipal Electric Auth of Georgia (MEAG Power)	CO_2	Stationary Combustion	Modified	2.5	1.2
General Motors Corporation	CO_2	Stationary Combustion	Basic	2.1	1.0
Alliant Energy	CO_2	Stationary Combustion	Modified	2.1	1.0
KeySpan Energy Corporation	CO_2	Stationary Combustion	Basic	2.1	1.0
Dow Chemical Company	CO_2	Stationary Combustion	Basic	2.0	1.0
NiSource/NIPSCO	CO_2	Stationary Combustion	Modified	1.8	0.9
Allegheny Energy, Inc.	CO_2	Stationary Combustion	Modified	1.5	0.7
Cinergy Corp.	CO_2	Stationary Combustion	Modified	1.4	0.7
Hawaiian Electric Company, Inc.	CO_2	Stationary Combustion	Basic	1.4	0.7
Texas Genco, LP	CO_2	Stationary Combustion	Modified	1.4	0.6
DTE Energy/Detroit Edison	CO_2	Stationary Combustion	Basic	1.3	0.6
Los Angeles Department of Water and Power	CO_2	Stationary Combustion	Basic	1.3	0.6
Sunoco, Inc.	CO_2	Stationary Combustion	Basic	1.2	0.6
Santee Cooper	CO_2	Stationary Combustion	Modified	1.2	0.6
PacifiCorp	CO_2	Stationary Combustion	Modified	1.0	0.5
Total				**215.7**	**103.2**

Note: Twenty-two participants in the Voluntary Reporting of Greenhouse Gases Program reported negative direct entity-level emission reductions for 2002.

addition, Consol Coal Group, another entity-level reporter that relied on the use of a basic reference case to calculate emission reductions from other direct sources, reported the fourth largest single direct emissions reduction at 19 million metric tons carbon dioxide equivalent, representing 9 percent of total reported carbon dioxide equivalent direct reductions for 2002.

Future Commitments To Reduce Emissions

The Voluntary Reporting Program also permits entities to report commitments to reduce emissions or to take action to reduce emissions in the future. In previous years, virtually all companies reporting future commitments were electric utility participants in the Climate Challenge voluntary program. However, 42 (53 percent) of the 79 future commitment reporters in 2002—including Baxter Healthcare, Inc., Dow Chemical Company, IBM, Lucent Technologies, Inc., Miller Brewing Company's Eden, NC, Facility, Noranda Aluminum, Inc., Sikorsky Aircraft Corporation, and Toyota Motor North America, Inc.—were not utilities. Nine of these nonutility reporters indicated that they were participants in other voluntary programs, such as Climate Wise for manufacturers and the Voluntary Aluminum Industrial Partnership.

There are three types of future commitments in the Voluntary Reporting Program: entity commitments, financial commitments, and project commitments. Entity and project commitments roughly parallel the entity and project aspects of emissions reporting: an entity commitment is a commitment to reduce the emissions of an entire organization; and a project commitment is a commitment to take a particular action that will have the effect of reducing the reporter's future emissions. A financial commitment has no emissions reporting counterpart: it is a commitment to spend a particular sum of money on emission reduction activities, without a specific promise on the emissions consequences of the expenditure. Most firms reported more than a single commitment, and many reported more than one type of commitment. Entity commitments are usually to make emissions lower than some level in a target year. Project commitments are usually to reduce emissions by a particular amount over a period of years. Because project

Table 32. Largest Individual Reported Entity-Level Indirect Emission Reductions by Gas, Source, and Type of Reference Case Employed, Data Year 2002

Reporter	Gas	Source	Reference Case	Reported Indirect Emission Reduction (Million Metric Tons Carbon Dioxide Equivalent)	Percent of Total Reported Positive Indirect Reductions
Integrated Waste Services Association	CO_2	Other Indirect	Modified	15.3	32.0
Integrated Waste Services Association	CH_4	Other Indirect	Modified	7.9	16.4
FPL Group	CO_2	Other Indirect	Modified	3.5	7.3
Southern Company	CO_2	Other Indirect	Modified	3.0	6.3
Public Service Enterprise Group	CO_2	Purchased Power	Modified	1.9	4.0
Portland General Electric Co.	CO_2	Purchased Power	Modified	1.2	2.6
Sacramento Municipal Utility District	CO_2	Purchased Power	Basic	1.2	2.5
Berkshire Power, LLC	CO_2	Other Indirect	Modified	0.9	1.9
PG&E Corporation	CO_2	Other Indirect	Modified	0.9	1.9
FirstEnergy Corporation	CH_4	Other Indirect	Modified	0.8	1.8
Alliant Energy	CO_2	Other Indirect	Modified	0.8	1.7
PG&E Corporation	CH_4	Other Indirect	Modified	0.7	1.5
Texas Genco, LP	CO_2	Other Indirect	Modified	0.7	1.4
Cinergy Corp.	CH_4	Other Indirect	Modified	0.7	1.4
Waste Management, Inc.	CO_2	Purchased Power	Basic	0.6	1.3
Peabody Holding Company, Inc.	CO_2	Purchased Power	Basic	0.5	1.1
Total				**40.8**	**85.1**

Note: Twenty-eight participants in the Voluntary Reporting of Greenhouse Gases Program reported negative indirect entity-level emission reductions for 2002.

Source: Energy Information Administration, Form EIA-1605.

commitments can cover a range of years, they are sometimes difficult to compare directly with project-level data for a single year of "achieved reductions."

Entity-Level Commitments

Twenty-four participants in the Voluntary Reporting Program reported entity-level commitments to reduce greenhouse gas emissions. These firms made promises to reduce, avoid, or sequester future emissions at the corporate level. As in the case of entity reporting, some commitments were to reduce emissions below a specific baseline, others to limit the growth of emissions per unit of output, and others to limit emissions by a specific amount in comparison with a baseline emissions growth trend. Participants reporting entity-level commitments to reduce greenhouse gas emissions in the future included Allegheny Energy, Inc., Alliant Energy, City of Klamath Falls, Entergy Services, Inc., FirstEnergy Corporation, FPL Group, Middlesex Generating Company, National Grid USA, Noranda Aluminum, Inc., and TVA.

In their reports for 2002, reporters of entity-level commitments pledged to reduce emissions in the future by 340 million metric tons carbon dioxide (Table 33), with 74 percent of the total coming from a new participant in the Voluntary Reporting Program, The Forest Bird Society (253 million metric tons carbon dioxide). Other pledges were reported by TVA at 7 percent of the total (23 million metric tons carbon dioxide), National Grid USA at 4 percent (15 million metric tons carbon dioxide), FPL Group at 3 percent (10 million metric tons carbon dioxide), Middlesex Generating Company at 2 percent (8 million metric tons carbon dioxide), and City of Klamath Falls at 2 percent (6 million metric tons carbon dioxide). These six commitments combined accounted for 93 percent (315 million metric tons carbon dioxide) of the total reported entity-level commitments to reduce greenhouse gases. National Grid USA and City of Klamath Falls measured their reduction commitments using basic reference cases. The four others used modified reference cases.

Project-Level Commitments

Twenty-six companies reported on commitments to undertake 185 individual emission reduction projects. Some of the commitments were linked to future results from projects already underway and forming part of the reporters' submissions. Others were for projects not yet begun. Twenty reporters provided data on the quantities of reductions expected for 95 projects.

Reporters indicated that projects were expected to reduce future emissions by 329 million metric tons carbon dioxide equivalent. Of that amount, 95 percent (313

Table 33. Largest Reported Individual Entity-Level Commitments To Reduce Greenhouse Gases by Gas and Type of Reference Case, Data Year 2002

Reporter	Gas	Reference Case	Reported Entity-Level Commitment (Million Metric Tons Carbon Dioxide Equivalent)	Percent of Total Reported Reduction Commitments
The Forest Bird Society	CO_2	Modified	253.1	74.4
Tennessee Valley Authority	CO_2	Modified	22.6	6.6
National Grid USA	CO_2	Basic	15.1	4.5
FPL Group	CO_2	Modified	10.0	2.9
Middlesex Generating Company, LLC	CH_4	Modified	8.4	2.5
City of Klamath Falls	CO_2	Basic	6.3	1.9
Entergy Services, Inc.	CO_2	Basic	5.0	1.5
FirstEnergy Corporation	CO_2	Modified	2.9	0.8
Noranda Aluminum, Inc.	CF_4	Basic	2.8	0.8
Alliant Energy	CO_2	Modified	2.4	0.7
Greater New Bedford Regional Refuse Mgt District	CH_4	Modified	2.1	0.6
South Carolina Electric & Gas Company	CO_2	Basic	1.8	0.5
Allegheny Energy, Inc.	CO_2	Basic	1.8	0.5
Alliant Energy	CO_2	Modified	1.8	0.5
Public Service Company of New Mexico	CO_2	Basic	1.5	0.4
Alliant Energy	CO_2	Modified	1.0	0.3
Total			**338.4**	**99.4**

CO_2 = carbon dioxide. CH_4 = methane. CF_4 = perfluoromethane.
Note: Reporters are not asked to indicate whether future reductions will be direct, indirect, or sequestration.
Source: Energy Information Administration, Form EIA-1605.

million metric tons) would be carbon dioxide, 4 percent (12 million metric tons) would be methane, and 1 percent (1 million metric tons) would be perfluorocarbons. Nitrous oxide and sulfur hexafluoride together would constitute less than 1 percent.

Five of the six largest individual project-level commitment, made by the Forest Bird Society, were related to land afforestation, management, preservation, and reforestation activities in Ecuador, South America. In total those commitments would offset 232 million metric tons of carbon dioxide emissions. The fifth largest individual project-level commitment, made by TVA, was described as "an increase in low emitting capacity," most likely a result of TVA's nuclear power program. It would reduce carbon dioxide emissions by 18 million metric tons. These six project-level commitments accounted for 76 percent of total reported project-level commitments, or 249 million metric tons carbon dioxide equivalent (Table 34).

Financial Commitments

Twenty-one companies, 17 of which were electric utilities, made a total of 41 financial commitments (including 3 for which no data were provided) to reduce

Table 34. Largest Reported Individual Project-Level Commitments To Reduce Greenhouse Gas Emissions, Data Year 2002

Reporter	Project Description	Reported Commitment (Million Metric Tons Carbon Dioxide Equivalent)	Percent of Total Reported Project-Level Commitments
The Forest Bird Society	San Lorenzo - Lowlands of Ecuador, preservation	104.0	31.6
The Forest Bird Society	Yanahurco - Highlands of Ecuador, mixed preservation	54.7	16.6
The Forest Bird Society	Llama Hills - Highlands of Ecuador, afforestation	44.8	13.6
Tennessee Valley Authority	Increase in low-emitting capacity	17.6	5.4
The Forest Bird Society	Mindo Slopes - Slopes of the Andes (Ecuador), preservation	16.1	4.9
The Forest Bird Society	La Siberia - Lowlands of Ecuador, mixed reforestation and forest management	12.0	3.6
Middlesex Generating Company, LLC	Landfill gas control and energy recovery to produce electric power	8.4	2.5
The Forest Bird Society	Pedernales - Lowlands of Ecuador, preservation	7.6	2.3
The Forest Bird Society	El Sinche - Highlands of Ecuador, afforestation	6.5	2.0
FirstEnergy Corporation	Undertake supply side efficiency improvements	4.4	1.3
The Forest Bird Society	Chiles Pond - Lowlands of Ecuador, preservation	3.9	1.2
City of Klamath Falls	As part of KCP's carbon offset proposal to EFSC, $1.5 million in funding was committed to the FRT program to support reforestation of underproducing lands in western Oregon	3.0	0.9
Noranda Aluminum, Inc.	Reduction of PFC emissions through anode effect reduction program in keeping with USEPA goal of 30-60%; 90% reduction in PFC emissions from Lines 1 & 2 and 69% reduction from Line 3; all reductions from 1990 baseline emissions	2.8	0.8
FirstEnergy Corporation	Nuclear generation operation improvement	2.5	0.8
City of Klamath Falls	Under the Oregon State Energy Facility Siting Council Site Certificate, the Klamath Cogeneration Project committed to invest $1 million (in 1998 dollars) to extract useful energy (methane) for electricity production from two largely untapped sources	2.5	0.8
Municipal Electric Auth of Georgia (MEAG Power)	Increase nuclear unit availability	2.5	0.7
Alliant Energy	Modified forest management	2.4	0.7
New York Power Authority	NYPA customer energy services programs	2.3	0.7
Tennessee Valley Authority	Fuel switching	2.2	0.7
Greater New Bedford Regional Refuse Mgt District	Landfill gas control and future utilization	2.1	0.6
City of Klamath Falls	Cogeneration of steam to displace fossil-fired boilers used at an off-site industrial facility	2.0	0.6
The Forest Bird Society	Pinantura Condor - Highlands of Ecuador, afforestation	2.0	0.6
Total		**306.2**	**93.1**

Source: Energy Information Administration, Form EIA-1605.

greenhouse gas emissions in the future. The total amount of funds promised was $51.3 million. The single largest reported financial commitment to reduce greenhouse gas emissions was that of Entergy Services, Inc., which committed to spend $25.0 million on a "carbon burnout plant" to make fly ash suitable for sale to cement companies, followed by Noranda Aluminum, Inc. ($5.5 million), Ameren Corporation ($5.0 million), and Minnesota Power ($3.0 million). FirstEnergy Corporation, CLE Resources, and Kansas City Power & Light Company each committed to spend $2.0 million, and the City of Klamath Falls reported two individual financial commitments that totaled $2.5 million. These eight entities reported financial commitments that together accounted for 92 percent of the reported total for 2002 (Table 35). The largest reported expenditures during 2002 were made by Entergy Services, Inc. ($2.0 million each), followed by Noranda Aluminum, Inc. ($1.6 million), Ameren Corporation ($0.5 million), and Dynegy Midwest Generation, Inc. ($0.4 million). Bountiful City Light & Power, NiSource/NIPSCO, and PacifiCorp reported expenditures of $0.2 million each to reduce greenhouse gas emissions. These seven expenditures combined accounted for 97 percent of the total reported expenditures in 2002 to reduce greenhouse gas emissions (Table 36).

Table 35. Largest Reported Individual Entity-Level Financial Commitments To Reduce Greenhouse Gas Emissions, Data Year 2002

Reporter	Industry	Financial Commitment (Dollars)	Voluntary Program Affiliation	Percent of Total Reported Financial Commitments
Entergy Services, Inc.	Electric, Gas, and Sanitary Services	25,000,000	None	48.7
Noranda Aluminum, Inc.	Primary Metals Industries	5,500,000	Voluntary Aluminum Industrial Partnership	10.7
Ameren Corporation (formerly UE and CIPS)	Electric, Gas, and Sanitary Services	5,000,000	Climate Challenge	9.7
Minnesota Power	Electric, Gas, and Sanitary Services	3,039,000	Climate Challenge	5.9
CLE Resources	Holding and Other Investment Offices	2,000,000	None	3.9
FirstEnergy Corporation	Electric, Gas, and Sanitary Services	2,000,000	Climate Challenge	3.9
Kansas City Power & Light Company	Electric, Gas, and Sanitary Services	2,000,000	Climate Challenge	3.9
City of Klamath Falls	Services, not elsewhere classified	1,500,000	None	2.9
City of Klamath Falls	Services, not elsewhere classified	1,000,000	None	1.9
PacifiCorp	Electric, Gas, and Sanitary Services	610,000	Climate Challenge	1.2
Bountiful City Light & Power	Electric, Gas, and Sanitary Services	517,296	Climate Challenge	1.0
City of Klamath Falls	Services, not elsewhere classified	500,000	None	1.0
Dynegy Midwest Generation, Inc.	Electric, Gas, and Sanitary Services	450,000	Climate Challenge	0.9
FirstEnergy Corporation	Electric, Gas, and Sanitary Services	400,000	Climate Challenge	0.8
Kansas City Power & Light Company	Electric, Gas, and Sanitary Services	264,000	Climate Challenge	0.5
Conectiv Atlantic Generation (CAG)	Electric, Gas, and Sanitary Services	200,000	Climate Challenge	0.4
FirstEnergy Corporation	Electric, Gas, and Sanitary Services	200,000	Climate Challenge	0.4
NiSource/NIPSCO	Electric, Gas, and Sanitary Services	200,000	Climate Challenge	0.4
Dynegy Midwest Generation, Inc.	Electric, Gas, and Sanitary Services	105,000	Climate Challenge	0.2
TXU	Electric, Gas, and Sanitary Services	105,000	Climate Challenge	0.2
TXU	Electric, Gas, and Sanitary Services	105,000	Climate Challenge	0.2
City of Klamath Falls	Services, not elsewhere classified	100,000	None	0.2
Constellation Energy Group, Inc.	Electric, Gas, and Sanitary Services	100,000	Climate Challenge	0.2
Total		**50,895,296**		**99.2**

Source: Energy Information Administration, Form EIA-1605.

Table 36. Reported Entity-Level Financial Expenditures To Reduce Greenhouse Gas Emissions, Data Year 2002

Reporter	Industry	2002 Financial Expenditure (Dollars)	Voluntary Program Affiliation	Percent of Total Reported Financial Expenditures
Entergy Services, Inc.	Electric, Gas, and Sanitary Services	2,000,000	None	38.0
Noranda Aluminum, Inc.	Primary Metals Industries	1,589,441	Voluntary Aluminum Industrial Partnership	30.2
Ameren Corporation (formerly UE and CIPS)	Electric, Gas, and Sanitary Services	500,000	Climate Change	9.5
Dynegy Midwest Generation, Inc.	Electric, Gas, and Sanitary Services	400,000	Climate Change	7.6
PacifiCorp	Electric, Gas, and Sanitary Services	218,067	Climate Change	4.1
Bountiful City Light & Power	Electric, Gas, and Sanitary Services	211,385	Climate Change	4.0
NiSource/NIPSCO	Electric, Gas, and Sanitary Services	200,000	Climate Change	3.8
Cleco Corporation	Electric, Gas, and Sanitary Services	49,704	None	0.9
Cleco Corporation	Electric, Gas, and Sanitary Services	33,678	None	0.6
TXU	Electric, Gas, and Sanitary Services	20,000	Climate Change	0.4
TXU	Electric, Gas, and Sanitary Services	20,000	Climate Change	0.4
Kansas City Power & Light Company	Electric, Gas, and Sanitary Services	10,000	Climate Change	0.2
Cleco Corporation	Electric, Gas, and Sanitary Services	5,000	USIJI	0.1
NiSource/NIPSCO	Electric, Gas, and Sanitary Services	5,000	Climate Change	0.1
Xcel Energy	Electric, Gas, and Sanitary Services	5,000	Climate Change	0.1
Total		**5,267,277**		**100.0**

Source: Energy Information Administration, Form EIA-1605.

8. Project-Level Reporting on Form EIA-1605EZ

The Energy Information Administration (EIA) provides Form EIA-1605EZ to participants in the Voluntary Reporting of Greenhouse Gases Program as a less comprehensive and less detailed alternative to Form EIA-1605. Form EIA-1605EZ allows reporters to provide a brief summary of their emission reduction projects for a single year, most recently 2002. The short form is used exclusively for reporting projects undertaken within the geographic boundaries of the United States, its territories and trusts. Because reports submitted on Form EIA-1605EZ do not make a distinction between owning or controlling an emissions source and simply initiating or participating in an emission reduction activity, there is no systematic way to distinguish between direct and indirect emissions reported on this form. Also, because the data reported in support of the emission reduction estimates are limited, it is difficult to perform anything but the most rudimentary arithmetic checks for accuracy.

Who Reported on Form EIA-1605EZ

Thirty-five entities submitted reports on Form EIA-1605EZ for 2002. Nineteen were electric power providers, typically relatively small electric power cooperatives. Eight were alternative energy providers, including one coal mine methane developer, two landfill gas-to-energy developers, and five firms that combusted biomass to reduce greenhouse gas emissions. Five were manufacturing firms—one each from the textile, chemical, refining, fabricated metals, and microprocessor industries. One industry association and two individual households also filed Form EIA-1605EZ for 2002.

What Was Reported on Form EIA-1605EZ

A total of 253 projects were reported on Form EIA-1605EZ for 2002 (Table 37), up from 210 projects reported on the short form for 2001 and one more than the earlier peak of 252 projects reported on the short form for 1998. Of the 253 projects reported for 2002, 97 focused on improvements in energy efficiency, 58 emphasized reductions in emissions from electricity generation, transmission, and distribution, and another 51 involved the capture and combustion of methane. Reporting on methane capture and combustion has grown steadily since 1994. For example, U.S. Energy Biogas Corp (formerly Zahren Alternative Power Corporation), which reported 10 projects for 1994, submitted a report with 42 projects on Form EIA-1605EZ for 2002.

Together, the 253 projects reported on the short form for 2002 reduced greenhouse gas emissions by 17.3 million metric tons carbon dioxide equivalent (Table 38). Of that total, 11.6 million metric tons resulted from efforts in the electricity generation, transmission, and distribution sector. Another 4 million metric tons was attributed to waste treatment and disposal, nearly all of which resulted from the capture and combustion of methane at municipal solid waste landfills (Table 39).

Federal voluntary programs played an important role in those projects reported on Form EIA-1605EZ. Of the projects reported, 191 (75 percent) were associated with some Federal voluntary initiative. Seventy-five projects were associated with the Climate Challenge program, and 48 of the 49 waste treatment and disposal projects reported referenced the Landfill Methane Outreach Program (Table 40).

Table 37. Number of Projects Reported on Form EIA-1605EZ by Reduction Objective and Project Type, Data Years 1994-2002

Reduction Objective and Project Type	1994	1995	1996	1997	1998	1999	2000	2001	2002
Reducing Carbon Dioxide Emissions	**88**	**118**	**125**	**138**	**177**	**151**	**148**	**146**	**187**
Electricity Generation, Transmission, and Distribution	35	44	44	46	59	53	55	50	58
Cogeneration and Waste Heat Recovery	0	1	2	2	2	0	0	0	1
Energy End Use	44	50	53	60	66	56	61	64	97
Transportation and Offroad Vehicles	5	8	11	9	14	11	12	13	9
Other Projects	4	15	15	21	36	31	20	19	21
Reducing Methane and Nitrous Oxide Emissions	**15**	**21**	**30**	**32**	**41**	**45**	**44**	**47**	**51**
Waste Treatment and Disposal (Methane)	10	16	21	28	39	42	43	45	49
Agriculture (Methane and Nitrous Oxide)	0	0	0	0	0	0	0	0	0
Oil and Natural Gas Systems and Coal Mining (Methane)	5	5	9	4	2	3	1	2	2
Carbon Sequestration	**20**	**24**	**23**	**30**	**34**	**41**	**35**	**14**	**14**
Halogenated Substances	**2**	**1**	**1**	**1**	**0**	**0**	**2**	**3**	**2**
Total	**125**	**164**	**179**	**201**	**252**	**237**	**229**	**210**	**253**

Note: Table excludes projects submitted in confidential reports.
Source: Energy Information Administration, Form EIA-1605EZ.

Table 38. Emission Reductions Reported on Form EIA-1605EZ by Reduction Objective and Project Type, Data Years 1994-2002

(Metric Tons Carbon Dioxide Equivalent)

Reduction Objective and Project Type	1994	1995	1996	1997	1998	1999	2000	2001	2002
Reducing Carbon Dioxide Emissions	**3,718,577**	**4,962,359**	**4,407,922**	**6,682,313**	**16,385,934**	**9,588,970**	**9,161,905**	**10,864,669**	**12,800,500**
Electricity Generation, Transmission, and Distribution	2,260,679	2,882,369	2,114,294	3,801,703	13,039,812	8,118,198	7,838,882	9,685,215	11,589,258
Cogeneration and Waste Heat Recovery	—	10,319	13,542	10,344	109,828	—	—	—	222
Energy End Use	1,361,188	1,573,674	1,910,306	2,353,454	2,393,956	334,120	358,707	310,765	352,236
Transportation and Offroad Vehicles	10,398	9,943	12,144	14,121	16,518	1,873	2,064	2,678	2,423
Other Projects	86,312	486,053	357,636	502,690	825,819	1,134,779	962,253	866,011	856,362
Reducing Methane and Nitrous Oxide Emissions	**564,022**	**1,152,190**	**1,258,256**	**1,825,780**	**3,028,286**	**3,226,071**	**3,086,281**	**3,954,618**	**4,304,242**
Waste Treatment and Disposal (Methane)	560,914	1,146,893	1,245,224	1,808,738	2,973,247	3,174,198	3,085,240	3,773,702	4,002,702
Agriculture (Methane and Nitrous Oxide)	—	—	—	—	—	—	—	—	—
Oil and Natural Gas Systems and Coal Mining (Methane)	3,108	5,297	13,032	17,042	55,039	51,872	1,041	180,916	301,540
Carbon Sequestration	**2,470**	**7,569**	**2,519**	**5,466**	**4,025**	**71,048**	**5,081**	**9,088**	**10,722**
Halogenated Substances	**—**	**—**	**—**	**123,049**	**—**	**—**	**20,744**	**11,327**	**141,101**
Total	**4,285,069**	**6,122,117**	**5,668,697**	**8,636,608**	**19,418,245**	**12,886,089**	**12,274,012**	**14,839,701**	**17,256,565**

— = none reported.
Note: Table excludes data submitted in confidential reports.
Source: Energy Information Administration, Form EIA-1605EZ.

Table 39. Carbon Dioxide and Methane Emission Reductions Reported on Form EIA-1605EZ by Reduction Objective and Project Type, Data Year 2002

(Metric Tons of Gas)

Reduction Objective and Project Type	Carbon Dioxide	Methane
Reducing Carbon Dioxide Emissions	**12,788,638**	**514**
Electricity Generation, Transmission, and Distribution	11,589,258	—
Cogeneration and Waste Heat Recovery	222	—
Energy End Use	352,236	—
Transportation and Offroad Vehicles	2,423	—
Other Projects	844,500	514
Reducing Methane and Nitrous Oxide Emissions	**20,962**	**186,230**
Waste Treatment and Disposal (Methane)	20,117	173,156
Agriculture (Methane and Nitrous Oxide)	—	—
Oil and Natural Gas Systems and Coal Mining (Methane)	845	13,074
Carbon Sequestration	**10,722**	**—**
Halogenated Substances	**—**	**—**
Total	**12,820,322**	**186,744**

— = none reported.

Notes: No reductions of nitrous oxide emissions were reported on Form EIA-1605EZ for 2002. Table excludes data submitted in confidential reports.

Source: Energy Information Administration, Form EIA-1605EZ.

Table 40. Number of Projects Reported on Form EIA-1605EZ Associated with Other Federal Voluntary Programs, Data Years 1994-2002

Voluntary Program	1994	1995	1996	1997	1998	1999	2000	2001	2002
Climate Challenge	106	127	117	124	129	114	111	97	75
Landfill Methane Outreach Program	—	—	2	2	34	40	42	44	48
Climate Wise Recognition Program	—	3	5	12	25	25	12	1	1
Energy STAR Programs	5	6	10	5	2	1	2	8	28
Energy Efficiency and Renewable Energy Information and Training Programs	—	—	—	—	—	—	—	—	27
Green Lights Program	1	3	6	4	6	2	1	1	1
Coalbed Methane Outreach Program	—	—	1	1	2	3	—	—	—
WasteWise Program	—	—	—	—	—	—	—	2	4
Other	4	11	3	9	7	1	3	11	7
Total	**116**	**150**	**144**	**157**	**205**	**186**	**171**	**164**	**191**

— = none reported.

Notes: Totals may not equal sum of components, because some projects are associated with more than one voluntary program. Table excludes data submitted in confidential reports.

Source: Energy Information Administration, Form EIA-1605EZ.

Glossary

Afforestation: Planting of new forests on lands that have not been recently forested.

Anaerobic lagoon: A liquid-based manure management system, characterized by waste residing in water to a depth of at least 6 feet for a period ranging between 30 and 200 days.

Associated natural gas: See associated-dissolved natural gas.

Associated-dissolved natural gas: Natural gas that occurs in crude oil reservoirs either as free gas (associated) or as gas in solution with crude oil (dissolved gas).

Baseline period: The years 1987 through 1990 for which entity-level emissions may be reported.

Biofuels: Liquid fuels and blending components produced from biomass (plant) feedstocks, used primarily for transportation.

Biogas: A mixture of carbon dioxide and methane produced through bacterial action.

Biomass: Organic nonfossil material of biological origin constituting a renewable energy source.

British thermal unit: The quantity of heat required to raise the temperature of 1 pound of liquid water by 1 degree Fahrenheit at the temperature at which water has its greatest density (approximately 39 degrees Fahrenheit).

Carbon sink: A reservoir that absorbs or takes up released carbon from another part of the carbon cycle. The four sinks, which are regions of the Earth within which carbon behaves in a systematic manner, are the atmosphere, terrestrial biosphere (usually including freshwater systems), oceans, and sediments (including fossil fuels).

Carbon Sequestration: The fixation of atmospheric carbon dioxide in a carbon sink through biological or physical processes.

Chlorofluorocarbon (CFC): Any of various compounds consisting of carbon, hydrogen, chlorine, and flourine used as refrigerants. CFCs are now thought to be harmful to the earth's atmosphere.

Cogeneration: The production of electrical energy and another form of useful energy (such as heat or steam) through the sequential use of energy.

Commercial scale: Application of a demonstrated technology at a cost-effective scale.

Commitment: An expressed intention to undertake an action or actions that will reduce greenhouse gas emissions, increase carbon sequestration, or achieve a stated emissions goal.

Conversion factor: A number that translates units of one measurement system into corresponding values of another measurement system. *Note:* For specific conversion factors, see EIA data products.

Deforestation: The net removal of trees from forested land.

Emissions coefficient: A unique value for scaling emissions to activity data in terms of a standard rate of emissions per unit of activity (e.g., pounds of carbon dioxide emissions per unit of fossil fuel consumed).

Emissions: Anthropogenic releases of gases to the atmosphere. In the context of global climate change, they consist of radiatively important greenhouse gases (e.g., the release of carbon dioxide during fuel combustion).

Emissions, direct: Emissions from sources owned (wholly or in part) or leased by an entity.

Emissions, fugitive: Unintended leaks of gas from the processing, transmission, and/or transportation of fossil fuels.

Emissions, indirect: Emissions from sources not owned or leased by an entity that occur, wholly or in part, as a result of its activities.

Emission reduction: A decrease in annual greenhouse gas emissions.

Energy conservation: Activities that reduce end-use demand for energy by reducing the service demanded.

Entity: For the purposes of the Voluntary Reporting Program, an individual or organization that is a legal U.S. person (e.g., a U.S. citizen, resident alien, company, organization, or group incorporated under or recognized by U.S. law; or a Federal, State, or local government agency).

Entity boundary: Conceptually, a line drawn to encompass the emissions sources and sinks to be evaluated in an entity-level report. An entity boundary should

include all the emissions sources and sinks owned (wholly or in part) or leased by the entity and, to the extent possible, other emissions sources and sinks affected by the entity's activities.

Entity-level reporting: The reporting of greenhouse gas emissions, emission reductions, and carbon sequestration for an entire entity.

Estimation method: The techniques, including key assumptions and data sources, used by the reporter to derive the reported emissions, emission reductions, or sequestration.

Foreign activities: All actions outside the United States, its territories, and trusts.

Fossil fuel: An energy source formed in the Earth's crust from decayed organic material. The common fossil fuels are petroleum, coal, and natural gas.

Fuel cycle: The entire set of sequential processes or stages involved in the utilization of fuel, including extraction, transformation, transportation, and combustion. Emissions generally occur at each stage of the fuel cycle.

Fuel switching: The substitution of one type of fuel for another. The fuel substitution may be either temporary (as in the case of a power plant that temporarily switches from coal to natural gas) or permanent (as in the case of a fleet operator who replaces gasoline-powered automobiles with electric cars).

Fugitive emissions: See Emissions, fugitive.

Global warming potential (GWP): An index used to compare the relative radiative forcing of different gases without directly calculating changes in their atmospheric concentrations. GWPs are calculated as the ratio of the radiative forcing that would result from the emission of one kilogram of a greenhouse gas to that from the emission of one kilogram of carbon dioxide over a fixed period of time, such as 100 years.

Gob: A zone of rubble created when the roof of a coal mine collapses behind the mining operations.

Greenhouse effect: The result of water vapor, carbon dioxide, and other atmospheric gases trapping radiant (infrared) energy, thereby keeping the Earth's surface warmer than it would otherwise be. Greenhouse gases within the lower levels of the atmosphere trap infrared radiation that would otherwise escape into space, and subsequent re-radiation of some of the energy back to the Earth maintains higher surface temperatures than would occur if the gases were absent. See Greenhouse gases.

Greenhouse gases: Those gases, such as water vapor, carbon dioxide, nitrous oxide, methane, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride, that are transparent to solar (short-wave) radiation but opaque to long-wave (infrared) radiation, thus preventing long-wave radiant energy from leaving Earth's atmosphere. The net effect is a trapping of absorbed radiation and a tendency to warm the planet's surface.

Halogenated substance: A volatile compound containing halogens, such as chlorine, fluorine, or bromine.

Horizon year: The year in which a commitment to reduce greenhouse gas emissions or increase sequestration (reported on Schedule IV) is expected to be met.

Intergovernmental Panel on Climate Change (IPCC): A panel established jointly in 1988 by the World Meteorological Organization and the United Nations Environment Program to assess scientific information related to climate change and to formulate realistic response strategies.

Life cycle: The progression of a product through its service life. For most products, emissions and energy-consuming characteristics will be altered as they age.

Longwall mining: An automated form of underground coal mining characterized by high recovery and extraction rates, feasible only in relatively flat-lying, thick, and uniform coalbeds. A high-powered cutting machine is passed across the exposed face of coal, shearing away broken coal, which is continuously hauled away by a floor-level conveyor system. Longwall mining extracts all machine-minable coal between the floor and ceiling within a contiguous block of coal, known as a panel, leaving no support pillars within the panel area. Panel dimensions vary over time and with mining conditions but currently average about 900 feet wide (coal face width) and more than 8,000 feet long (the minable extent of the panel, measured in direction of mining). Longwall mining is done under movable roof supports that are advanced as the bed is cut. The roof in the mined-out area is allowed to fall as the mining advances.

Manure management: The method used to dispose of the solid waste produced by livestock and poultry.

Municipal solid waste: Residential solid waste and some nonhazardous commercial, institutional, and industrial wastes.

Ozone: A molecule made up of three atoms of oxygen. Occurs naturally in the stratosphere and provides a protective layer shielding the Earth from harmful ultraviolet radiation. In the troposphere, it is a chemical oxidant, a greenhouse gas, and major component of photochemical smog.

Photosynthesis: The manufacture of carbohydrates and oxygen from carbon dioxide and water in the presence of chlorophyll, with sunlight as the energy source. Carbon is sequestered and oxygen and water are released in the process.

Pilot project: A small-scale trial designed to test or demonstrate the efficiency or efficacy of a project.

Project: An action undertaken to reduce greenhouse gas emissions or sequester carbon.

Project boundary: Conceptually, a line drawn to encompass the emissions sources and sinks affected by a project. A project boundary should include all the significant and quantifiable effects of the project.

Project ID code: A unique code assigned by the Energy Information Administration to a reported project for tracking purposes.

Project-level reporting: Reporting on emission reductions or carbon sequestration achieved as a result of a specific action or group of actions.

Reconductoring: Replacement of existing conductors with large-diameter conductors to reduce line losses. Conductors (including feeders and transmission lines) are a major source of transmission and distribution system losses. In general, the smaller the diameter of the conductor, the greater its resistance to the flow of electric current, and the greater the consequent line losses.

Reference case: The emissions level to which current actual emissions levels are compared when emission reductions are calculated.

Reference case, basic: A reference case using actual historical emissions or sequestration values.

Reference case, modified: A reference case using projected emissions or sequestration values, representing the emissions level that would have occurred in the absence of reduction or sequestration efforts.

Reforestation: Replanting of forests on lands that have recently been harvested or otherwise cleared of trees.

Reporter: An entity (see definition above) completing either Form EIA-1605 or Form EIA-1605EZ and submitting it to the Energy Information Administration.

Room-and-pillar mining: The most common method of underground mining in which the mine roof is supported mainly by coal pillars left at regular intervals. Rooms are places where the coal is mined; pillars are areas of coal left between the rooms. Room-and-pillar mining is done either by conventional or continuous mining.

Sequestered carbon: Carbon that is removed from the atmosphere and retained in a carbon sink (such as a growing tree) or in soil.

Sink: See Carbon sink.

Third-party reporter: An authorized party that submits a report on behalf of two or more entities that have engaged in emissions-reducing or sequestration-increasing activities. Possible third-party reporters include trade associations reporting on behalf of members that have undertaken reduction projects.

Vhar metering: Phase shifters on watt-hour meters that measure reactive volt ampere hours or varhours.

Watt (W): The unit of electrical power equal to one ampere under a pressure of one volt. A watt is equal to 1/746 horsepower.

Appendix A

The Voluntary Reporting Program: A Developmental Overview

Appendix A

The Voluntary Reporting Program: A Developmental Overview

Introduction

Rising global atmospheric concentrations of carbon dioxide, methane, nitrous oxide, and other "greenhouse gases" have been a subject of increasing scientific and policy concern for the past decade. Many scientists and policymakers believe that increasing atmospheric concentrations of these gases (thought to be caused by human activities, particularly, the combustion of fossil fuels) may cause significant long-term changes in global weather and climate by trapping more of the sun's heat in the atmosphere.

In 1992, President George H.W. Bush signed a multilateral treaty, the Framework Convention on Climate Change, which committed the United States to take steps, in conjunction with other signatory states, to ". . . achieve . . . stabilization of the greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."[66]

As the Framework Convention was being negotiated, Congress began to consider measures that would help the U.S. Government develop the national "commitment" required by the treaty. One such measure was Section 1605(b) of the Energy Policy Act of 1992, which requires the Energy Information Administration (EIA) to create reporting forms and a database for the voluntary reporting of emissions and reductions in emissions of greenhouse gases. The Voluntary Reporting Program was developed in a cooperative effort with potential reporters, the Department of Energy's Office of Policy, and the U.S. Environmental Protection Agency. The program permits individuals, corporations, and other organizations to report to EIA on actions taken that have reduced emissions of greenhouse gases or increased the sequestration of carbon.

Reporters choose to undertake the effort of preparing their voluntary submissions for a variety of reasons, such as:

- To establish a public record of their contributions to achieving a national policy objective
- To provide the opportunity for others to benefit from their experience in reducing emissions
- To demonstrate their commitment to voluntary approaches to solving or ameliorating environmental conditions
- To record the activities undertaken pursuant to voluntary programs
- To establish a basis for requesting consideration of prior actions in a possible future "credit for early reductions" program or a possible future regulatory scheme to stabilize or reduce national emissions of greenhouse gases.

Development of the Voluntary Reporting Program

The Voluntary Reporting Program is required by Section 1605(b) of the Energy Policy Act of 1992 (see box on page 2). About 3 years elapsed from the passage of the law, in October 1992, to the completion of the first reporting cycle. The development of the Voluntary Reporting Program consisted of three phases:

- Guidelines development (October 1992 to October 1994)
- Forms development (February 1994 to July 1995)
- First report cycle (July 1995 to March 1996).

Guidelines Development

The principal clauses of Section 1605(b) of the Energy Policy Act require the U.S. Department of Energy (DOE), in consultation with the U.S. Environmental Protection Agency (EPA), to issue guidelines for reporting emissions and emission reductions of greenhouse gases. EIA was then required to develop a reporting

[66]United Nations, "Report of the Intergovernmental Negotiating Committee for a Framework on Convention for Climate Change on the Work of the Second Part of its Fifth Session, Held at New York from 30 April to 9 May 1992," UN Document A/AC.237/18, Part II (May 15, 1992), web site www.unfcc.de.

framework consistent with the guidelines. The information collected was to be accessible for public use.

The development of the guidelines was assigned to DOE's Office of Policy, which began a series of public workshops to gather information about public expectations of the program. The public workshops on the guidelines ran from September 1993 to March 1994 and were held in Washington, DC, Atlanta, GA, and Chicago, IL. The workshops spanned a range of issues related to the objectives of the Voluntary Reporting Program, the definition of a "credible" report, and methods of reporting.

Differing notions of the purpose of the Voluntary Reporting Program were expressed, as well as differing views about the nature and type of information to be collected. Many potential reporters tended to stress the notion that the reporting system should be "simple and flexible." They typically opposed suggestions to construct detailed "official" definitions of baselines, reporting entities, and coverage of reports. It was argued that such definitions were premature in an experimental program, would discourage companies from reporting, and would render the program relatively narrow.

Some commenters, who were not potential reporters, argued the reverse. They urged explicit and specific definitions of "who is responsible for an emission." The individuals and organizations holding these views hoped to elicit reports that revealed absolute and verifiable emission reductions.

Following the workshops, a public review draft of the guidelines was published in May 1994. After further public comment, final guidelines were published in October 1994.[67] The guidelines contain several broad themes that have shaped the program:

- The Department held that the primary objective of the program was "broad participation." Any U.S. "legal person" (i.e., individual, corporation, trade association, or private voluntary organization) may report.
- Within the confines of the statute, reporters were given nearly complete flexibility in crafting their reports. Reporters were free to define as they saw fit the nature of the reporting entity, the emissions and reductions to be reported, methods of calculating emissions and reductions, and the type of activity deemed to cause emission reductions.
- Reporters were to be permitted to report on activities both in the United States and abroad, so long as they distinguish between domestic and foreign activities.
- Reporters were to be encouraged to report both emissions and emission reductions as comprehensively as possible, accounting for both "direct" and "indirect" emissions.
- Reporters were to be encouraged to report on emissions and emission reductions for a range of greenhouse gases.
- Reporters were to report "achieved reductions," defined as emission reductions achieved since 1990. Reductions occurring prior to 1990 or reductions expected to occur in the future are not permitted.

The guidelines did not define "property rights" in emissions. For example, the emissions from generating electricity could be the responsibility of an electric utility or the purchaser of the electricity. By accepting the validity of differing possible interpretations of who "owns" emissions, reporters were given considerable flexibility in reporting on their greenhouse gas emissions and emission reduction activities. The guidelines explicitly recognized the possibility that, in the absence of clear "property rights," two or more organizations might report on the same emission reduction activity, an eventuality called "double reporting." The flexibility of the guidelines has, of necessity, resulted in a relatively complex reporting form and database.

Forms Development

EIA developed, in parallel, reporting forms and a database consistent with the guidelines. In early November 1994, 2 weeks after the issuance of the final guidelines, EIA issued draft forms for public review. The draft forms were pre-tested by several firms interested in reporting, including Niagara Mohawk Power, Houston Light & Power (now Reliant Energy), and General Motors. Many useful comments were received, both from pre-testers and from the public review process.

Following the public review, EIA sent the forms to the Office of Management and Budget (OMB) for formal clearance under the Paperwork Reduction Act, a legal requirement for any Federal data collection exercise. The OMB requested further public comment and, after reviewing the forms, cleared them for public use in May 1995. After final editing and layout revisions to enhance readability, EIA released the forms to the public in July 1995.

[67] U.S. Department of Energy, *Voluntary Reporting of Greenhouse Gases Under Section 1605(b) of the Energy Policy Act of 1992: General Guidelines;* and *Sector-Specific Issues and Reporting Methodologies Supporting the General Guidelines for the Voluntary Reporting of Greenhouse Gases Under Section 1605(b) of the Energy Policy Act of 1992*, Volumes 1 and 2, DOE/PO-0028 (Washington, DC, October 1994), web site www.eia.doe.gov/oiaf/1605/guidelns.html.

The Voluntary Reporting Program and the Climate Change Action Plan

On April 21, 1993 (Earth Day), President Clinton committed the United States to stabilizing its emissions of greenhouse gases at 1990 levels by the year 2000. The methods by which the Government proposed to achieve this objective were described in the President's *Climate Change Action Plan*, published in October 1993.[68] That document spelled out a range of largely voluntary programs intended to limit emissions of greenhouse gases. The *Climate Change Action Plan* is updated yearly through the preparation and submission of the United States' *Climate Action Report*, under the annual requirement to the United Framework Convention on Climate Change. The most recent report, *U.S. Climate Action Report 2002*, was released in May 2002.[69]

As President Clinton's Climate Change Action Plan got underway, managers of certain DOE- and EPA-sponsored voluntary emission reduction programs (as well as some participants) felt the need for a reporting system to record and describe the actions of participants in those programs. The 1605(b) Voluntary Reporting Program, already underway with an OMB-approved data collection instrument and a requirement to collect information about a broad range of emission reduction activities, was a useful vehicle for recording results of the voluntary reduction programs. Participants in the Climate Challenge program (for electric utilities) and the Climate Wise program (for manufacturing firms) were strongly encouraged to file reports with the Voluntary Reporting Program documenting their emission reduction efforts.[70]

Forms Design

The data collection forms for the Voluntary Reporting Program, as developed, endeavored to cover the complexity in categories of emissions required by the guidelines. To this end, the structure of the voluntary reporting database needed to be expansible to cover many different contingencies, including the following:

- Reporters ranged from some of the largest industrial firms in the United States to individual households.
- Reporters could report on specific actions (projects) they had taken to reduce emissions or on the emissions (and reductions) of their entire organizations.
- The statute required, and reporters requested, the ability to report on many different classes of actions that have the effect of reducing greenhouse gas emissions, ranging from energy conservation to carbon sequestration.
- The reporting format sought to identify areas where multiple reporting of the same project actually occurred, and to make possible a general assessment of the reliability and possible ownership of the reports.
- The lack of generally accepted accounting principles for greenhouse gas emissions required a design that permitted a variety of reporting formats. This led to ambiguities that the forms design tried to clarify.
- The guidelines permitted the reporting of foreign emission reduction actions.
- The guidelines permitted reporting on reductions for a range of greenhouse gases.
- Managers of voluntary programs asked EIA to develop a mechanism for collecting participants' commitments to reduce future emissions.

EIA developed two alternative reporting instruments: the long form (Form EIA-1605), which comprises four schedules (described in the box on page 88), and the short form (Form EIA-1605EZ). The short form is intended to cover reporting solely on emission reduction projects and for a single year only.

The text box on page 88 outlines the basic structure of the long form. The form has four schedules. The first schedule asks for the name and address of the reporter, along with some particulars about the report. The most fundamental distinction is between "project reporting" in Schedule II and "entity reporting" in Schedule III. Project reporters are reporting on specific actions they have taken to reduce emissions. Entity reporters are reporting on emissions and emission reductions for an entire organization. For example, during the ninth reporting cycle of the Voluntary Reporting Program (2002 data year), 114 reporters provided entity-level reports, and 171 reporters provided project-level reports. Fifty-nine reporters filed both entity-level and project-level reports, while 55 reporters filed only entity-level reports. Within Schedule II, the report is further subdivided into ten sections, reflecting the diversity of anticipated reduction actions. Each section contains general

[68]President William J. Clinton and Vice President Albert Gore, Jr., *The Climate Change Action Plan* (Washington, DC, October 1993), web site www.gcrio.org/USCCAP/toc.html.

[69]U.S. Department of State, *U.S. Climate Action Report 2002* (Washington DC, May 2002), web site http://unfccc.int/resource/docs/natc/usnc3.pdf.

[70]Not all participants in those programs have filed 1605(b) reports. Many participants have promised to take actions in the future, which will not be reportable until the actions have produced results. Section 1605(b) obliges EIA to receive reports of "achieved reductions," meaning the results of actions already taken. Further, some voluntary program participants may have experienced difficulty in gathering together the necessary information to file their reports.

questions that are applicable to all ten sections, as well as other questions specific to the particular type of project, to help reporters and EIA understand and describe the project.

In order to clarify what reporters are claiming as "their" emissions, the Voluntary Reporting Program generally distinguishes between "direct" and "indirect" emissions. A direct emission is defined as an emission from a facility actually owned by a reporter. An indirect emission is defined as an emission from a facility owned by someone else, but for which the reporter claims some responsibility. Some reporters reported only direct emissions and some reported only indirect emissions, depending on the nature of the project and the reporter's view on the ownership of the emission.

Schedule IV was added to assist participants in DOE- and EPA-sponsored voluntary programs in recording their commitments to reduce future emissions. Seventy-nine firms reported on Schedule IV during the 2002 data reporting cycle. Twenty-eight (35 percent) of the 2002 Schedule IV reporters were electric utilities participating in DOE's Climate Challenge program.

Forty (51 percent) of the reporting entities that filed Schedule IV information for the 2002 reporting cycle were classified under Standard Industrial Classification (SIC) codes other than SIC 49 (Electric, Gas, and Sanitary Services). They included: the Oil Seeds Division of Cargill, Inc. and Miller Brewing Company's Eden, NC, Facility (SIC 20, Food and Kindred Products); Highland Industries, Inc., one plant of Hanes Dye and Finishing, three subsidiaries of M.J. Soffe Company, and four subsidiaries of National Spinning, Inc. (SIC 22, Textile Mill Products); Ajinomoto Aminoscience, LLC, Allergan, Inc., Baxter Healthcare, Inc., the Dow Chemical Company, and Mallinckrodt, Inc. (SIC 28, Chemicals and Allied Products); Noranda Aluminum, Inc., Alcan

The Structure of Form EIA-1605

Schedule I. General Information

This schedule asks for the reporter's name, address, and type of entity, and whether the report contains confidential information.

Schedule II. Project Level Emissions and Reductions

This schedule covers reporting of specific actions that the reporter has taken that have reduced emissions. It is divided into ten parts, each covering a specific type of project. Each part requests general information about the location and nature of the project, emissions, emission reductions, and (if applicable) fuel or energy savings. Each part also asks a number of questions specific to the project type that will enhance the ability of data users to assess the emission reductions claimed.

Section 1	Electric Power Generation, Transmission, and Distribution
Section 2	Cogeneration and Waste Heart Recovery
Section 3	Energy End Use
Section 4	Transportation and Off-Road Vehicles
Section 5	Waste Treatment and Disposal—Methane
Section 6	Agriculture—Methane and Nitrous Oxide
Section 7	Oil and Natural Gas Systems and Coal Mining—Methane
Section 8	Carbon Sequestration
Section 9	Halogenated Substances
Section 10	Other Emission Reduction Projects

Schedule III. Entity Level Emissions and Reductions

This schedule covers reporting on the emissions of an entire entity. It requests direct emissions (Part Ia) and reductions in direct emissions (Part Ib) from sources such as stationary combustion, transportation, and other direct sources. Schedule III also requests indirect emissions (Part IIa) and reductions in indirect emissions (Part IIb) from sources such as power transactions, which include purchased power and electricity wholesaling, and other indirect sources. Carbon sequestered, total emissions, and total reductions in emissions (Parts III, IVa, and IVb, respectively) for the entire entity are also requested on Schedule III. It should also be noted that if reporting entities had both foreign and domestic emission reduction activities, they were requested to submit two separate copies of Schedule III, Parts I through III—one representative of their domestic emission reduction activities and the other representative of their foreign emission reduction activities.

Schedule IV. Commitments to Emission Reduction or Sequestration Projects

This schedule permits reporters to outline commitments to reduce emissions some time in the future, generally as part of a Government-sponsored voluntary program. Commitments can take several forms. The reporter can describe entity-level commitments to reduce greenhouse gas emissions (Section 1). Section 2 allows the reporter to report on financial commitments in terms of dollars pledged toward emission reduction or sequestration activities or research. Section 3 can be used to report on commitments to undertake specific actions or projects whose intended objective is to reduce greenhouse gas emissions or sequester carbon.

Primary Metals Group, and six COMMSCOPE plants (SIC 33, Primary Metals Industries); IBM, Lucent Technologies, Northrop Grumman Poly-Scientific, Motorola Austin, and Penn Compression Moulding, Inc. (SIC 36, Electronic and Other Electrical Equipment); and International Truck and Engine Corporation, Sikorsky Aircraft Corporation, and Toyota Motor North America, Inc. (SIC 37, Transportation Equipment).

Appendix B

Summary of Reports Received

Table B1. Reporting Enitities, Data Year 2002

Reporter Name	Sector	Type of Form	Number of Projects Reported (Schedule II)	Entity-Wide Report (Schedule III)	Commitments (Schedule IV)
A&N Electric Cooperative	Electric Providers	1605	2		Yes
Abe Krasne Home Furnishings, Inc.	Services and Retail	1605	0	Yes	
Advanced Micro Devices	Industrial	1605EZ	5		
AES Hawaii, Inc.	Electric Providers	1605	1	Yes	
AES Shady Point LLC	Electric Providers	1605	1	Yes	
AES Thames	Electric Providers	1605	1	Yes	Yes
AES Warrior Run, Inc.	Electric Providers	1605	2	Yes	
Ajinomoto Aminoscience LLC	Industrial	1605	0	Yes	Yes
Alabama Biomass Partners, Ltd	Alternative Energy	1605EZ	1		
Alcan Primary Metals Group, Sebree Works	Industrial	1605	1	Yes	Yes
Allegheny Energy, Inc.	Electric Providers	1605	51	Yes	Yes
Allergan, Inc.	Industrial	1605	35	Yes	Yes
Alliant Energy	Electric Providers	1605	40	Yes	Yes
Ameren Corporation (formerly UE and CIPS)	Electric Providers	1605	28		Yes
American Electric Power, Inc.	Electric Providers	1605	96		
Anoka Municipal Utility	Electric Providers	1605EZ	4		
Arizona Electric Power Cooperative, Inc.	Electric Providers	1605EZ	6		
Arizona Public Service Company	Electric Providers	1605	0	Yes	Yes
Asheville Landfill Gas, LLC	Alternative Energy	1605	1		
AT&T	Industrial	1605	4		
Azdel, Inc	Industrial	1605	0	Yes	Yes
BARC Electric Cooperative	Electric Providers	1605	2		
Baxter Healthcare Inc.	Industrial	1605	0	Yes	Yes
Berkshire Power LLC	Electric Providers	1605	1	Yes	
Bethlehem Steel Corporation[(p)]	Industrial	1605	0	Yes	
Biomass Partners, LP	Alternative Energy	1605EZ	1		
Black Beauty Coal Company, c/o Peabody Energy	Alternative Energy	1605	0	Yes	
Blue Source, LLC	Industrial	1605	4		
Bountiful City Light & Power	Electric Providers	1605	7	Yes	Yes
Branson Ultrasonics Corporation	Industrial	1605	1		
Burlington County Board of Chosen Freeholders[(p)]	Services and Retail	1605	3		
Cargill, Inc. - Oil Seeds Division	Industrial	1605	0	Yes	Yes
Carolina Power & Light Company	Electric Providers	1605	1		
Catawba Landfill Gas, LLC	Alternative Energy	1605	1		
CDX Gas, LLC	Alternative Energy	1605	2		
ChevronTexaco Corporation	Industrial	1605EZ	1		
Choptank Electric Cooperative	Electric Providers	1605	1		
Cinergy Corp.	Electric Providers	1605	44	Yes	
City of Austin Electric Utility (Austin Energy)	Electric Providers	1605EZ	6		
City of Edmond, Oklahoma, Electric Department	Electric Providers	1605EZ	3		
City of Klamath Falls- Cogen	Electric Providers	1605	4		Yes
City of Palo Alto	Electric Providers	1605EZ	2		
City Public Service	Electric Providers	1605	9		
City Utilities of Springfield	Electric Providers	1605	6		
CLE Resources	Industrial	1605	10		Yes
Cleco Corporation	Electric Providers	1605	11		Yes
CMV Joint Venture	Alternative Energy	1605	2		
COMMSCOPE CATAWBA PLANT	Industrial	1605	0	Yes	Yes
COMMSCOPE CLAREMONT PLANT	Industrial	1605	0	Yes	Yes
COMMSCOPE CONOVER REEL RECYCLING	Industrial	1605	0	Yes	Yes
COMMSCOPE Headquarters- Hickory	Industrial	1605	0	Yes	
COMMSCOPE NEWTON PLANT	Industrial	1605	0	Yes	Yes
COMMSCOPE SCOTTSBORO PLANT	Industrial	1605	0	Yes	Yes
COMMSCOPE SPARKS PLANT	Industrial	1605	0	Yes	Yes
COMMSCOPE STATESVILLE PLANT	Industrial	1605	0	Yes	Yes
Community Electric Cooperative	Electric Providers	1605	1		
Conectiv Atlantic Generation (CAG)	Electric Providers	1605	8		Yes
Conectiv Delmarva Generation	Electric Providers	1605	21		
Consol Coal Group	Industrial	1605	0	Yes	
Consolidated Edison Company of New York, Inc.	Electric Providers	1605	4	Yes	Yes
Constellation Energy Group, Inc	Electric Providers	1605	27	Yes	Yes
County Sanitation Districts of Los Angeles County	Alternative Energy	1605	2		
DaimlerChrysler Corporation	Industrial	1605	2	Yes	
Dakota Gasification Company	Industrial	1605	W	W	W
Danaher Controls	Industrial	1605	0	Yes	

Table B1. Reporting Enitities, Data Year 2002 (Continued)

Reporter Name	Sector	Type of Form	Number of Projects Reported (Schedule II)	Entity-Wide Report (Schedule III)	Commitments (Schedule IV)
DeBourgh Manufacturing Company	Industrial	1605EZ	2		
Delaware Electric Cooperative	Electric Providers	1605	1		
Delaware Solid Waste Authority	Alternative Energy	1605	4		
Dominion Generation	Electric Providers	1605	2		
Doxey Furniture Corporation	Industrial	1605	0	Yes	Yes
Drummond Company, Inc.	Industrial	1605	1		
DTE Energy/ Detroit Edison	Electric Providers	1605	43	Yes	
Duke Energy Corporation	Electric Providers	1605	25	Yes	Yes
Dynegy Midwest Generation Inc.	Electric Providers	1605	34	Yes	Yes
El Paso Production Company	Alternative Energy	1605	1		
Energy Management Partners, LP	Alternative Energy	1605EZ	1		
Entergy Services, Inc.	Electric Providers	1605	41	Yes	Yes
Environmental Synergy, Inc.	Agricultural	1605	1		
Exelon Corporation	Electric Providers	1605	34		
FirstEnergy Corporation	Electric Providers	1605	55	Yes	Yes
Fisher Scientific Company L.L.C	Industrial	1605	0	Yes	
Florida Power Corporation	Electric Providers	1605	0	Yes	
Ford Motor Company	Industrial	1605	3	Yes	
FPL Group	Electric Providers	1605	31	Yes	Yes
Gas Recovery Systems	Alternative Energy	1605	28	Yes	
General Motors Corporation	Industrial	1605	3	Yes	
GeoMet Inc.	Alternative Energy	1605	2		
Golden Valley Electric Association, Inc	Electric Providers	1605EZ	3		
Granger Electric Company	Alternative Energy	1605	7		
Granger Energy, LLC	Alternative Energy	1605	2		
Greater New Bedford Regional Refuse Mgt District	Alternative Energy	1605	1	Yes	Yes
Green Mountain Energy Company	Electric Providers	1605	3	Yes	
Greene Energy, LLC	Alternative Energy	1605EZ	1		
Hanes Dye and Finishing, Butner Plant	Industrial	1605	0	Yes	
Hanes Dye and Finishing, Winston-Salem Plant	Industrial	1605	0	Yes	Yes
Hawaiian Electric Company, Inc.	Electric Providers	1605	15	Yes	
Highland Industries, Inc.	Industrial	1605	0	Yes	Yes
IBM	Industrial	1605	0	Yes	Yes
Integrated Waste Services Association	Alternative Energy	1605	1	Yes	
International Truck and Engine Corporation	Industrial	1605	0	Yes	Yes
Iredell Landfill Gas, LLC	Alternative Energy	1605	1		
J. Bradford Hollomon	Other	1605EZ	1		
J.M. Gilmer and Company, Inc.	Agricultural	1605	4		
JEA	Electric Providers	1605EZ	5		
Jim Walter Resources, Inc.	Alternative Energy	1605	4	Yes	
Johnson & Johnson	Industrial	1605	11	Yes	
Kansas City Power & Light Company	Electric Providers	1605	18	Yes	Yes
KeySpan Energy Corporation	Electric Providers	1605	0	Yes	
Klickitat County Public Utility District No. 1	Electric Providers	1605	1		
Landfill Energy Systems	Alternative Energy	1605	14		
Lehigh Cement Co. (fmrly Lehigh Portland Cement Co	Industrial	1605	8	Yes	
Lehigh Cement Co. (formerly Calaveras Cement Co.)	Industrial	1605	2	Yes	
LFG Energy, Inc.	Alternative Energy	1605	2		
Los Angeles Department of Water and Power	Electric Providers	1605	26	Yes	
Lower Colorado River Authority	Electric Providers	1605	6	Yes	Yes
Lucent Technologies Inc.	Industrial	1605	26	Yes	Yes
Lynchburg Gas Producers, LLC	Alternative Energy	1605	1		
M. J. SOFFE COMPANY - Maxton	Industrial	1605	0	Yes	Yes
M. J. SOFFE COMPANY - Bladenboro	Industrial	1605	0	Yes	Yes
M. J. SOFFE COMPANY Fayettville	Industrial	1605	0	Yes	
M. J. SOFFE COMPANY Rowland	Industrial	1605	0	Yes	Yes
Madison County Depart. of Solid Waste & Sanitation	Alternative Energy	1605	3		
Mallinckrodt, Inc.	Industrial	1605	0	Yes	Yes
Maple Springs Laundry	Services and Retail	1605	0	Yes	Yes
McNeil Generating Station	Electric Providers	1605	0	Yes	
Mead Johnson Nutls/Bristol-Meyers Squibb	Industrial	1605	2		
Mecklenburg Electric Cooperative	Electric Providers	1605	1		
Michigan CAT	Industrial	1605	2		

Table B1. Reporting Enitities, Data Year 2002 (Continued)

Reporter Name	Sector	Type of Form	Number of Projects Reported (Schedule II)	Entity-Wide Report (Schedule III)	Commitments (Schedule IV)
Middlesex Generating Company, LLC	Alternative Energy	1605	3	Yes	Yes
Miller Brewing Company, Eden, NC, Facility	Industrial	1605	0	Yes	Yes
Minnesota Power	Electric Providers	1605	10		Yes
Minnesota Resource Recovery Association (MRRA)	Other	1605EZ	3		
Model City Energy, LLC	Alternative Energy	1605	1		
Montauk Energy Capital	Alternative Energy	1605	27		
Motorola Austin	Industrial	1605	0	Yes	Yes
Municipal Electric Auth of Georgia (MEAG Power)	Electric Providers	1605	1	Yes	Yes
Nashville Electric Service	Electric Providers	1605EZ	3		
National By-Products Inc	Industrial	1605	1		
National Grid USA	Electric Providers	1605	23	Yes	Yes
National Spinning Co., Inc. Washington	Industrial	1605	0	Yes	Yes
National Spinning Inc. Beulaville	Industrial	1605	0	Yes	Yes
National Spinning Inc. Warsaw	Industrial	1605	0	Yes	Yes
National Spinning Inc. Whiteville	Industrial	1605	0	Yes	Yes
Natural Power, Inc.	Alternative Energy	1605	1		
NC Muni Landfill Gas Partners, LLC	Alternative Energy	1605	1		
Nebraska Public Power District	Electric Providers	1605EZ	12		
NEO Corporation	Alternative Energy	1605	34		
New Jersey Meadowlands Commission	Alternative Energy	1605	5	Yes	
New York Power Authority	Electric Providers	1605	0	Yes	Yes
Newton Landfill Gas, LLC	Alternative Energy	1605	1		
NiSource/NIPSCO	Electric Providers	1605	40	Yes	Yes
Nissan North America, Inc.	Industrial	1605	0	Yes	
Noranda Aluminum Inc.	Industrial	1605	1		Yes
North American Carbon, Inc.	Alternative Energy	1605	4		Yes
North Carolina Biomass Partners	Alternative Energy	1605EZ	1		
North Carolina Electric Membership Corporation	Electric Providers	1605EZ	1		
Northern Neck Electric Cooperative	Electric Providers	1605	2		
Northern Virginia Electric Cooperative	Electric Providers	1605	2		
Northrop Grumman Poly-Scientific	Industrial	1605	0	Yes	Yes
Northwest Fuel Development, Inc.	Alternative Energy	1605	1		
Ocean County Landfill Corporation	Alternative Energy	1605	2		
Old Dominion Electric Cooperative	Electric Providers	1605	2		
Omaha Public Power District	Electric Providers	1605EZ	10		
Orlando Utilities Commission (OUC)	Alternative Energy	1605EZ	1		
PacifiCorp	Electric Providers	1605	43	Yes	Yes
Pak-Lite, Inc. - Mebane Plant	Industrial	1605	0	Yes	
Palmer Capital Corporation	Alternative Energy	1605	10	Yes	
Peabody Holding Company, Inc.	Industrial	1605	2	Yes	
PEI Power Corp	Alternative Energy	1605	1	Yes	
Penn Compression Moulding, Inc.	Industrial	1605	0	Yes	Yes
PG&E Corporation	Electric Providers	1605	30	Yes	
Pharmacia & Upjohn Caribe Inc.	Industrial	1605EZ	8		
Pitt Landfill Gas, LLC	Alternative Energy	1605	1		
Platte River Power Authority & 4 Owner Cities	Electric Providers	1605	27		
Portland General Electric Co.	Electric Providers	1605	28	Yes	
Prince George Electric Cooperative	Electric Providers	1605	1		
Public Service Company of New Mexico	Electric Providers	1605	4		Yes
Public Service Enterprise Group	Electric Providers	1605	16	Yes	Yes
Public Utility District No. 1 of Snohomish County	Electric Providers	1605	9		
Rappahannock Electric Cooperative	Electric Providers	1605	3		
Republic Metals Corporation	Industrial	1605	0	Yes	
Rochester Gas and Electric Corporation	Electric Providers	1605	0	Yes	
Rolls-Royce Corporation	Industrial	1605	4	Yes	
Sacramento Municipal Utility District	Electric Providers	1605	7	Yes	
Salt River Project	Electric Providers	1605EZ	24		
Santee Cooper	Electric Providers	1605	11	Yes	Yes
Seattle City Light	Electric Providers	1605	20	Yes	
SeaWest WindPower, Inc.	Alternative Energy	1605	10		
Seminole Electric Cooperative, Inc.	Electric Providers	1605EZ	5		
Seneca Energy II, LLC	Alternative Energy	1605	2		
Shenandoah Valley Electric Cooperative	Electric Providers	1605	3		
Shih Family	Other	1605EZ	4		

Table B1. Reporting Enitities, Data Year 2002 (Continued)

Reporter Name	Sector	Type of Form	Number of Projects Reported (Schedule II)	Entity-Wide Report (Schedule III)	Commitments (Schedule IV)
Shrewsbury Electric Light Plant	Electric Providers	1605EZ	2		
Siemens Power Transmission & Distribution, Inc.	Industrial	1605	0	Yes	
Sikorsky Aircraft Corporation	Industrial	1605	5	Yes	Yes
South Carolina Electric & Gas Company	Electric Providers	1605	18		Yes
Southeastern Biomass Partners, LP	Alternative Energy	1605EZ	1		
Southern California Edison Co.	Electric Providers	1605	19		
Southern Company[(p)]	Electric Providers	1605	34	Yes	Yes
Southside Electric Cooperative	Electric Providers	1605	1		
Springs Industries, Inc.	Industrial	1605EZ	4		
Steuben Rural Electric Co-op	Electric Providers	1605EZ	11		
Sunoco, Inc.	Industrial	1605	0	Yes	
Tacoma Power	Electric Providers	1605EZ	7		
Tampa Electric Company	Electric Providers	1605	10	Yes	Yes
Tennessee Valley Authority	Electric Providers	1605	26	Yes	Yes
Texas Genco, LP	Electric Providers	1605	5	Yes	Yes
The Dow Chemical Company	Industrial	1605	0	Yes	Yes
The Empire District Electric Co.	Electric Providers	1605	9		
The Estee Lauder Companies	Industrial	1605	13		
The Forest Bird Society	Other	1605	0		Yes
Toyota Motor North America, Inc.[(p)]	Industrial	1605	0	Yes	Yes
TS Designs, Inc.	Industrial	1605	0	Yes	
Tucson Electric Power Company	Electric Providers	1605	20	Yes	Yes
TXU	Electric Providers	1605	25		Yes
U. S. Steel Mining Company, LLC	Alternative Energy	1605	2		
U.S. Department of Energy - Energy Management	Services and Retail	1605	0	Yes	
US Energy Biogas Corp.	Alternative Energy	1605EZ	42		
Utah Municipal Power Agency	Electric Providers	1605EZ	8		
Valdese Manufacturing Company	Industrial	1605	0	Yes	Yes
Vermont Public Power Supply Authority	Electric Providers	1605	13		
Waste Management Inc.	Alternative Energy	1605	202	Yes	
Waverly Light & Power Company	Electric Providers	1605	9	Yes	Yes
We Energies	Electric Providers	1605	24		
Wisconsin Public Power Inc.	Electric Providers	1605EZ	61		
Wyeth-Lederle Vaccines	Industrial	1605	0	Yes	
Xcel Energy	Electric Providers	1605	38		Yes
Zeeland Board of Public Works	Electric Providers	1605EZ	3		

Notes: [(p)] Indicates that the report has Preliminary status, meaning the initial submission has been reviewed by EIA but a final version has not yet been accepted. W indicates that a report is confidential and its data is withheld from publication.
Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ

Table B2. Project Level Emission Reductions and Sequestration Reported, Data Year 2002
(Metric Tons Carbon Dioxide Equivalent)

Reporter and Reduction Type	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
A&N Electric Cooperative												
Indirect		0.9	85.2	621.5	699.1	3,129.1	3,411.3	4,120.0	3,850.1	5,987.9	4,210.9	6,193.1
Advanced Micro Devices												
Unspecified (EZ)												138,623.0
AES Hawaii, Inc.												
Sequestration		1,540,000.0	1,540,000.0	1,540,000.0	1,540,000.0	1,540,000.0	1,540,000.0	1,540,000.0	1,540,000.0	1,540,000.0	1,540,000.0	1,540,000.0
AES Shady Point LLC												
Sequestration			4,150,000.0	4,150,000.0	4,150,000.0	4,150,000.0	4,150,000.0	4,150,000.0	4,150,000.0	4,150,000.0	4,150,000.0	4,150,000.0
AES Thames												
Sequestration	550,000.0	70,000.0	290,000.0	370,000.0	480,000.0	440,000.0	440,000.0	590,000.0	530,000.0	370,000.0	410,000.0	410,000.0
AES Warrior Run, Inc.												
Direct									1,091.3	38,702.3	44,227.1	41,841.2
Indirect						2,925.6	15,518.1	30,562.4	31,707.8	20,016.9	21,045.0	21,134.7
Alabama Biomass Partners, Ltd												
Unspecified (EZ)												69,287.1
Alcan Primary Metals Group, Sebree Works												
Direct	-210.9	31,150.5	31,344.3	87,392.4	104,469.6	122,629.8	78,791.1	182,343.0	249,129.9	229,767.0	365,010.9	376,103.1
Allegheny Energy, Inc.												
Direct	158,688.4	240,496.5	330,729.6	526,287.6	812,086.4	963,416.8	1,040,641.4	1,336,726.6	1,266,955.9	1,408,555.6	1,359,360.8	1,458,302.9
Indirect	11,209.2	29,542.5	37,098.4	39,192.2	70,261.6	68,308.6	98,364.5	162,706.1	261,556.6	244,824.0	226,898.7	201,959.3
Sequestration	26.6	66.5	66.5	66.5	4,278.3	4,291.6	5,099.9	5,107.1	5,453.9	1,490.5	1,857.4	1,620.8
Allergan, Inc.												
Indirect	0.0	0.0	0.0	0.0	115.7	115.7	501.2	2,921.6	3,183.1	3,898.5	6,325.0	10,438.1
Direct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	552.0	552.0	552.0	552.0	875.3
Alliant Energy												
Indirect	17,835.0	27,971.0	41,300.0	59,367.0	73,045.0	371,566.0	379,493.0	393,118.0	386,945.0	458,602.0	789,408.8	794,351.5
Direct	49,745.0	82,568.0	142,274.0	232,179.2	317,864.9	454,535.5	554,406.5	794,241.5	1,112,819.6	1,662,104.6	1,761,644.6	2,105,609.0
Sequestration	17.0	28,203.0	28,257.0	28,327.0	29,617.4	29,715.4	30,226.7	30,149.8	30,784.1	30,490.2	30,689.8	30,854.2
Ameren Corporation (formerly UE and CIPS)												
Indirect	920.8	1,165.7	2,642.6	5,650.9	15,949.2	34,833.2	67,604.3	85,680.0	118,286.9	119,793.8	317,408.5	338,340.0
Direct	1,932,743.6	117,298.1	433,326.8	2,042,923.9	363,408.3	1,029,094.1	1,111,637.9	530,338.4	784,760.2	2,152,628.0	599,318.0	621,612.1
Sequestration								812.6	755.3	158.0	179.4	138.6
American Electric Power, Inc.												
Indirect	223,425.1	295,977.2	346,900.2	612,497.6	586,184.7	558,640.8	664,269.7	663,010.6	735,762.2	710,039.9	684,599.8	647,846.1
Sequestration	3,616.3	4,948.1	6,887.8	10,226.5	27,477.6	48,598.6	113,792.7	158,899.9	165,334.9	180,846.9	194,984.5	291,860.1
Direct	4,161,585.9	-3,217,945.6	5,599,898.9	27,672.4	4,845,064.4	7,336,943.5	2,226,657.3	-7,509,707.3	-7,530,918.2	-2,655,588.8	7,137,589.0	7,093,860.7
Anoka Municipal Utility												
Unspecified (EZ)												376.1
Arizona Electric Power Cooperative, Inc.												
Unspecified (EZ)												82,345.0
Asheville Landfill Gas, LLC												
Indirect							0.0	-368.3	87.1	187.8	193.2	95.3
Direct							28,877.5	88,132.1	76,492.9	85,183.7	96,319.4	69,967.5
AT&T												
Direct											33,838.0	5,533.8
Indirect							52,616.7	47,173.6	36,287.4	44,452.1	63,502.9	164,036.3
BARC Electric Cooperative												
Indirect	392.3	668.3	1,535.6	897.7	1,391.8	1,177.7	2,430.5	3,386.5	1,798.5	2,445.3	3,216.4	1,767.8
Berkshire Power LLC												
Direct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-276,913.6	-247,834.7	-533,682.3
Indirect	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	381,369.6	418,509.7	930,870.5
Biomass Partners, LP												
Unspecified (EZ)												96,909.6
Blue Source, LLC												
Indirect										5,901,965.0	6,647,755.0	5,980,817.0
Bountiful City Light & Power												
Sequestration					0.0	0.2	0.5	1.0	1.4	1.9	2.4	2.9
Direct	27.6	1,337.9	10,309.7	6,426.3	11,850.7	14,618.1	16,786.4	19,226.1	15,556.1	11,626.7	9,577.1	6,438.8
Branson Ultrasonics Corporation												
Indirect							0.2	0.4	0.1	0.0	0.2	0.2
Burlington County Board of Chosen Freeholders[p]												
Direct	1,309.4	2,082.7	2,731.3	3,329.2	3,865.4	10,642.2	77,110.0	280,427.7	195,898.3	200,215.0	202,096.0	199,607.9
Indirect	24,805.4	31,716.0	36,477.2	40,509.7	43,305.8	49,001.2	54,859.5	62,206.0	67,530.6	45,829.6	49,980.0	50,800.9
Carolina Power & Light Company												
Direct				3,493,951.5	4,906,991.6	5,182,056.4	5,595,116.7	6,974,301.6	7,403,076.1	8,163,018.5	6,242,285.1	8,435,784.4
Catawba Landfill Gas, LLC												
Indirect										11,397.0	13,062.6	10,439.0
Direct								39,894.4	96,501.8	93,079.9	106,684.0	85,255.4
CDX Gas, LLC												
Direct								459,701.1	377,469.1	814,859.0	1,547,494.2	2,202,911.4
ChevronTexaco Corporation												
Unspecified (EZ)												2,585.5
Choptank Electric Cooperative												
Indirect	9,751.7	14,819.5	2,233.3	29,060.7	25,419.6	23,885.9	29,004.9	19,749.8	19,733.7	10,667.5	29,822.9	16,537.9
Cinergy Corp.												
Direct	120.4	95,406.9	194,297.0	400,975.8	1,128,605.7	1,275,493.4	1,350,417.8	1,381,451.7	1,425,186.2	1,477,451.7	1,393,705.7	1,475,789.1
Indirect	63,887.6	519,314.3	467,617.5	493,589.8	537,415.3	704,305.8	670,683.3	708,916.9	712,342.5	737,796.4	743,328.7	787,610.5
Sequestration	1.6	24.2	283.8	510.8	169,479.1	169,794.2	170,722.2	170,879.5	173,856.2	30,622.5	42,161.2	35,498.0
City of Austin Electric Utility (Austin Energy)												
Unspecified (EZ)												1,312,769.9
City of Edmond, Oklahoma, Electric Department												
Unspecified (EZ)												2,975.4
City of Klamath Falls- Cogen												
Sequestration										127.7	275.4	1,029.8
Direct											-726,746.0	-2,104,283.0
Indirect										282.0	745,484.0	2,156,081.0

Table B2. Project Level Emission Reductions and Sequestration Reported, Data Year 2002 (Continued)
(Metric Tons Carbon Dioxide Equivalent)

Reporter and Reduction Type	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
City of Palo Alto												
Unspecified (EZ)												17,375.6
City Public Service												
Sequestration			0.1	0.2	0.2	0.2	0.2	1.0	1.7	2.2	2.5	3.2
Indirect		80,394.7	112,008.3	123,314.5	130,293.5	162,440.5	146,159.3	147,407.6	156,210.9	157,892.8	161,841.8	150,534.6
Direct	2,701,812.5	3,378,803.4	209,559.2	2,583,896.3	3,798,320.0	3,650,658.1	3,760,563.3	3,883,745.7	3,700,037.2	3,430,617.8	3,750,840.6	3,972,432.4
City Utilities of Springfield												
Direct	12,501.0	37,702.6	40,315.3	27,696.4	-1,000.8	-38,953.8	49,285.1	56,671.9	37,044.5	35,381.7	45,357.6	40,079.6
Sequestration	4.8	20.5	29.9	55.0	64.9	74.7	84.8	94.9	104.9	116.3	125.5	135.7
CLE Resources												
Indirect						339.7	810.6	1,395.6	8,832.8	12,700.8	15,759.1	6,659.2
Cleco Corporation												
Sequestration					1,805.0	1,805.0	2,217.5	2,266.8	2,456.7	716.9	1,187.1	2,596.5
CMV Joint Venture												
Direct				65,493.9	249,364.8	410,054.3	479,404.2	475,475.2	500,390.4	501,325.2	767,463.6	650,349.0
Community Electric Cooperative												
Indirect	331.3	729.3	1,291.0	1,450.0	2,495.2	2,976.9	2,647.6	3,093.1	2,296.3	3,228.4	4,379.3	1,074.8
Conectiv Atlantic Generation (CAG)												
Direct		67,800.0	83,000.0	90,700.0	119,420.0	73,500.0	70,120.0	76,602.0	88,652.0	64,302.0	31,227.9	1,127.9
Indirect				20,800.0	18,700.0	19,400.0	20,700.0	11,285.0	15,061.0	15,285.0	16,472.0	17,390.0
Sequestration								0.4	5.6	8.4	11.4	15.2
Conectiv Delmarva Generation												
Sequestration	14.2	30.3	49.9	72.6	1,300.8	1,331.1	1,289.3	1,143.9	1,111.0	451.4	481.2	317.6
Direct	131,031.8	143,266.1	469,362.4	888,555.9	1,433,211.0	1,379,889.8	812,518.3	599,805.1	1,052,401.1	473,624.3	815,794.1	875,876.2
Indirect	1,068.5	16,831.5	3,900.9	6,503.8	10,132.3	18,884.0	26,286.6	27,392.4	28,091.9	22,794.8	24,500.3	23,483.0
Consolidated Edison Company of New York, Inc.												
Indirect												110.4
Direct	695,442.4	1,113,627.4	1,575,780.9	1,595,630.1	1,440,320.1	1,577,966.3	926,605.9	1,860,104.3	956,634.6	1,257,362.9	1,158,614.3	1,523,489.1
Constellation Energy Group, Inc												
Indirect			87,761.9	133,723.2	133,000.9	113,586.8	116,694.1	113,698.1	154,050.1	245,867.3	141,975.3	265,094.6
Sequestration					1,203.4	1,203.4	1,129.7	947.9	881.1	252.0	286.1	220.8
Direct	1,495.0	1,033,402.3	2,097,259.3	1,703,118.2	2,857,603.2	2,438,328.9	3,155,682.8	3,344,027.4	3,680,415.8	4,031,919.2	3,750,484.1	5,106,082.2
County Sanitation Districts of Los Angeles County												
Indirect								187,706.0	192,282.0	212,214.0	195,744.0	218,562.0
Direct								4,399,535.0	4,248,470.0	4,170,710.0	4,139,789.0	4,141,591.0
DaimlerChrysler Corporation												
Indirect					38,108.0	70,903.0	117,620.0	135,866.0	141,505.0	137,360.0	159,593.0	166,968.0
Direct				13,024.0	68,856.0	88,338.0	112,115.0	115,370.0	156,956.0	244,613.0	259,122.0	253,716.0
DeBourgh Manufacturing Company												
Unspecified (EZ)												0.0
Delaware Electric Cooperative												
Indirect	12,890.1	14,523.9	25,240.5	12,396.5	23,989.6	25,485.5	18,172.4	23,711.8	26,406.9	40,177.2	31,768.9	35,730.5
Delaware Solid Waste Authority												
Direct					110,022.5	318,593.5	400,897.2	431,578.2	431,196.3	396,499.6	333,973.7	388,629.8
Dominion Generation												
Direct	4,924,666.3	4,410,697.1	3,809,520.3	6,361,162.6	6,087,394.2	7,159,639.4	7,902,529.4	8,042,548.9	9,035,443.6	9,054,485.4	7,720,851.2	9,276,652.2
Drummond Company, Inc.												
Direct										5,018.1	26,895.3	21,345.2
DTE Energy/ Detroit Edison												
Sequestration					167,972.9	168,930.2	192,001.7	205,260.1	226,564.9	84,307.7	112,781.7	117,465.9
Indirect	-1,199.3	157,602.6	379,469.6	557,597.7	815,348.0	1,411,923.1	2,248,374.6	3,667,596.0	4,548,355.6	5,716,772.4	5,873,698.2	6,497,462.1
Direct	-645,222.9	526,733.6	1,495,067.3	-6,427,800.7	-1,557,139.8	-1,823,155.0	-792,709.9	1,107,552.7	3,140,348.0	1,952,135.0	2,178,158.1	2,909,742.9
Duke Energy Corporation												
Indirect	-33,173.0	-15,919.0	29,057.0	72,973.0	166,484.0	126,998.0	233,028.0	303,751.0	154,306.0	134,201.0	113,169.0	83,323.0
Sequestration					1,203.4	1,203.4	2,175.7	2,637.9	3,151.5	794.5	902.2	696.7
Direct	7,898,659.0	6,883,847.0	7,117,085.0	9,558,516.0	12,766,380.0	5,685,010.0	4,119,150.0	12,147,503.0	13,359,220.0	15,017,819.0	14,544,847.0	13,326,026.0
Dynegy Midwest Generation Inc.												
Indirect		7,037.9	4,582.2	3,806.5	4,260.1	7,713.8	2,086.5	3,682.3	10,847.2	70,238.8	25,406.6	43,552.1
Sequestration					4,813.5	11,073.1	23,163.7	34,665.5	47,782.9	90,699.2	131,338.9	151,347.1
Direct	1,934.1	39,384.5	64,818.4	173,310.4	296,271.1	259,458.5	278,559.3	349,213.5	119,006.3	128,828.4	142,751.0	283,605.9
El Paso Production Company												
Direct						1,024,755.0	2,335,384.9	3,372,951.2	3,727,681.3	3,227,040.5	1,838,019.9	1,263,286.6
Energy Management Partners, LP												
Unspecified (EZ)												4,075,237.8
Entergy Services, Inc.												
Sequestration					2,406.8	22,364.8	46,376.8	66,972.5	67,999.9	63,285.8	63,711.1	64,028.2
Indirect	70,418.4	83,248.7	94,392.6	120,298.1	227,756.9	230,687.1	267,216.7	298,034.7	333,864.0	289,077.2	276,078.1	193,372.8
Direct	447,503.4	427,206.9	804,472.4	737,732.7	2,502,811.3	2,852,498.4	5,589,751.6	6,414,450.6	3,732,724.4	5,929,269.1	6,740,478.3	7,996,169.5
Environmental Synergy, Inc.												
Sequestration									1,603.9	1,692.8	2,237.1	2,994.6
Exelon Corporation												
Sequestration					349.3	483.2	612.8	731.9	2,599.7	4,438.1	6,058.1	7,680.2
Indirect	498,538.9	476,622.2	675,684.8	861,969.2	1,660,317.5	2,305,303.9	2,731,848.5	2,826,435.2	4,127,852.1	6,891,316.6	9,846,513.4	7,510,315.6
Direct	96,602.5	92,574.6	131,213.4	155,294.6	147,523.2	192,986.0	812,338.8	684,698.5	462,061.5	120,588.3	123,019.0	113,528.4
FirstEnergy Corporation												
Direct	3,439,807.3	4,367,999.0	1,325,940.8	2,267,217.6	5,677,120.1	4,205,736.8	5,411,951.9	11,055,182.2	10,977,709.9	14,802,683.3	14,211,300.9	10,705,899.6
Sequestration		12.1	26.7	41.9	18,107.7	18,123.1	29,586.3	25,707.6	24,579.2	5,386.0	6,113.0	4,764.7
Indirect	121,013.2	128,833.4	138,607.1	127,673.0	109,541.4	113,958.1	384,248.6	673,676.0	893,439.9	910,151.6	949,735.1	994,262.5
Ford Motor Company												
Direct								39,468.0	38,170.0	92,990.0	108,101.0	207,465.0
Indirect								57,290.0	67,546.0	116,710.0	133,873.0	158,668.0
FPL Group												
Sequestration					3,008.4	3,008.4	2,824.3	2,369.4	2,202.6	460.6	523.1	404.0
Direct	111,210.9	339,136.5	2,364,463.8	9,138,863.6	10,478,542.4	11,160,131.2	11,207,785.6	13,181,219.2	13,174,502.7	13,441,204.7	13,756,698.1	19,390,771.6
Indirect								67,541.2	2,106,091.7	1,810,193.2	2,038,616.9	3,803,134.7
Gas Recovery Systems												
Indirect					62,305.0	66,036.0	73,062.0	73,085.0	64,596.0	386,245.0	415,306.0	426,600.1
General Motors Corporation												
Direct	46,600.0	168,759.0	243,665.0	289,451.0	210,320.0	481,951.0	633,297.0	899,308.0	856,025.0	830,306.0	659,748.0	906,162.0
Indirect	66,191.0	249,429.0	351,451.0	420,055.0	280,802.0	419,009.0	536,531.0	863,907.0	763,878.0	687,700.0	418,925.0	781,976.0
GeoMet Inc.												
Direct				43,662.6	166,243.9	273,370.3	319,603.5	316,984.9	333,589.5	335,888.8	511,635.3	433,559.0

Table B2. Project Level Emission Reductions and Sequestration Reported, Data Year 2002 (Continued)
(Metric Tons Carbon Dioxide Equivalent)

Reporter and Reduction Type	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Golden Valley Electric Association, Inc												
Unspecified (EZ)												741.8
Granger Electric Company												
Indirect	111,200.0	123,415.2	172,189.1	370,595.0	513,554.6	587,040.2	649,156.0	686,849.6	702,337.9	707,789.1	728,796.8	700,106.7
Direct	-6,623.4	-8,051.3	-14,879.6	-35,940.4	-50,900.8	-60,821.3	-68,561.4	-72,398.8	-74,169.6	-75,307.2	-76,766.6	-73,822.1
Granger Energy, LLC												
Indirect									244,352.9	404,389.4	440,551.4	453,571.3
Greater New Bedford Regional Refuse Mgt District												
Direct										65,563.2	69,220.0	115,659.7
Green Mountain Energy Company												
Indirect												537,391.6
Greene Energy, LLC												
Unspecified (EZ)												300,695.1
Hawaiian Electric Company, Inc.												
Sequestration					1,203.4	1,203.4	1,129.7	947.9	881.1	184.3	209.2	161.7
Direct						16,738.5	50,270.7	45,219.5	45,891.8	38,485.5	46,177.5	40,888.6
Integrated Waste Services Association												
Indirect	13,725,219.8	14,880,113.2	15,213,581.6	15,547,050.1	18,530,979.5	19,603,404.4	19,393,158.0	19,822,052.3	21,719,491.9	20,804,365.6	21,623,118.0	23,314,960.5
Direct	-7,260,856.4	-7,714,655.8	-7,714,655.8	-7,714,655.8	-7,806,113.2	-7,897,007.7	-7,806,148.4	-7,806,177.3	-8,532,237.8	-9,438,948.6	-9,438,948.6	-9,476,461.1
Iredell Landfill Gas, LLC												
Direct							26,234.0	59,739.9	88,967.6	88,581.2	89,022.0	49,416.2
J. Bradford Hollomon												
Unspecified (EZ)												0.3
J.M. Gilmer and Company, Inc.												
Sequestration					298.2	583.6	608.6	998.3	3,583.4	3,867.0	2,749.9	4,403.5
JEA												
Unspecified (EZ)												538,188.1
Jim Walter Resources, Inc.												
Direct	5,090,682.9	4,774,845.6	5,319,950.3	4,257,032.7	4,615,539.4	4,330,415.8	4,425,352.7	5,023,622.0	5,594,787.4	5,242,456.8	5,061,283.8	5,493,862.2
Johnson & Johnson												
Indirect	4,594.6	18,347.1	51,314.0	81,808.2	104,137.3	145,381.4	167,605.7	184,183.1	201,265.8	174,628.0	216,205.4	198,553.2
Direct	0.0	19,336.2	28,946.3	32,673.1	38,007.4	42,035.3	48,776.2	56,976.6	70,620.6	74,525.7	75,016.5	74,896.9
Kansas City Power & Light Company												
Indirect	69,711.7	79,434.9	99,539.0	133,643.7	121,721.5	155,098.7	137,868.5	150,898.4	168,451.5	158,238.4	187,480.6	125,326.7
Sequestration					2,406.8	2,406.8	3,305.5	3,585.7	4,032.6	978.9	1,254.1	1,070.0
Direct	306,498.7	163,897.4	220,094.8	487,719.8	452,249.8	462,394.8	561,187.2	643,823.6	357,943.4	733,582.3	635,118.3	1,022,871.7
Klickitat County Public Utility District No. 1												
Direct									174,363.0	275,586.0	264,477.0	265,075.0
Landfill Energy Systems												
Direct					37,953.9	47,551.9	305,988.9	416,094.8	504,208.8	630,422.7	316,184.7	812,659.8
Indirect	112,818.4	387,822.4	600,147.2	691,015.4	641,230.9	654,835.0	747,017.7	787,767.5	870,748.6	940,835.0	924,497.5	879,449.4
Lehigh Cement Co. (fmrly Lehigh Portland Cement Co												
Indirect				23,123.0	32,876.0	32,876.0	40,273.0	31,151.0	38,020.0	37,975.0	33,551.0	36,397.0
Direct		-5,864.0	4,528.0	316,717.0	450,285.0	443,451.0	537,142.0	600,523.0	558,184.0	569,685.0	617,795.0	790,261.0
Lehigh Cement Co. (formerly Calaveras Cement Co.)												
Direct	39,044.0	108,155.0	299,847.0	234,394.0	219,803.0	178,995.0	233,589.0	201,072.0	189,238.0	183,804.0	139,923.0	181,896.0
Indirect	-1,013.0	-2,536.0	6.0	2,498.0	1,375.0	2,532.0	4,366.0	5,073.0	1,690.0	231.0	-903.0	2,662.0
LFG Energy, Inc.												
Indirect							39,014.4	34,288.9	31,873.0	37,081.2	26,863.6	19,945.4
Direct							164,616.8	144,759.5	167,141.5	156,695.3	113,526.9	84,292.0
Los Angeles Department of Water and Power												
Direct					354,288.8	264,003.8	302,946.3	368,235.1	567,818.2	622,572.2	603,702.0	613,518.1
Indirect	8,507.6	8,507.6	8,507.6	8,507.6	8,474.9	8,474.9	8,474.9	8,474.9	8,474.9	7,085.7	7,085.7	8,166.5
Sequestration		1,669.2	2,003.1	2,003.1	2,003.1	2,003.1	2,003.1	2,126.5	2,434.3	2,531.9	2,623.2	4,013.0
Lower Colorado River Authority												
Direct	14,152.1	23,677.5	35,198.8	48,262.2	98,429.6	226,342.6	266,258.7	285,672.5	280,138.7	310,620.1	415,672.1	511,380.1
Indirect	47,536.5	50,802.3	68,129.6	91,172.1	112,037.3	121,018.5	126,643.0	116,936.1	151,409.1	123,286.4	139,525.0	141,158.0
Lucent Technologies Inc.												
Direct			7,946.9	15,508.3	13,996.0	15,790.5	13,371.0	10,332.8	12,052.9	13,149.6	11,329.0	7,236.7
Indirect						20,884.5	17,099.6	79,796.5	9,169.9	21,429.0	32,015.5	14,789.8
Lynchburg Gas Producers, LLC												
Direct										12,547.3	20,464.3	47,894.8
Madison County Depart. of Solid Waste & Sanitation												
Direct	0.0	0.0	0.0	0.0	0.0	1,460.6	11,058.6	23,786.4	36,931.5	31,297.9	31,297.9	31,297.9
Indirect	15,894.6	20,715.3	16,997.2	20,701.5	18,709.2	19,176.7	23,457.7	21,020.8	25,242.9	23,297.5	29,633.1	21,932.9
Mead Johnson Nutls/Bristol-Meyers Squibb												
Indirect					1,442.1	1,945.4	1,945.4	1,945.4	1,945.4	1,945.4	1,945.4	1,945.4
Direct									23,735.6	40,528.8	41,097.0	37,909.2
Mecklenburg Electric Cooperative												
Indirect	1,754.2	3,057.9	5,902.6	2,633.3	11,658.5	11,394.9	10,022.9	11,646.2	10,737.9	13,785.5	13,965.9	14,656.0
Michigan CAT												
Direct							300,751.7	284,163.8	316,400.7	303,026.0	319,488.7	367,708.3
Middlesex Generating Company, LLC												
Direct							8,946.7	306,510.5	452,005.7	452,519.2	480,663.7	497,823.1
Minnesota Power												
Sequestration					3,006.4	13,920.8	16,665.0	16,665.0	16,665.0	16,665.0	17,801.7	17,801.7
Indirect			7,255.7	47,854.9	70,737.7	70,737.7	70,737.7	70,737.7	70,737.7	70,737.7	70,737.7	70,737.7
Direct	31,797.7	83,880.1	162,776.2	276,452.8	407,984.6	547,965.8	663,566.0	703,358.8	803,923.7	761,413.8	893,732.2	1,028,303.0
Minnesota Resource Recovery Association (MRRA)												
Unspecified (EZ)												1,365,011.0
Model City Energy, LLC												
Direct											118,810.4	196,780.2
Indirect											28,118.2	47,029.4
Montauk Energy Capital												
Direct	6,600,722.0	2,191,685.9	2,518,853.0	2,390,323.1	2,593,133.3	2,679,515.5	3,228,271.5	4,745,048.2	6,023,471.2	6,399,472.1	7,365,760.0	6,223,251.4
Municipal Electric Auth of Georgia (MEAG Power)												
Direct	863,000.0	1,144,000.0	1,353,000.0	1,590,000.0	2,234,000.0	2,125,000.0	2,415,000.0	2,543,000.0	2,460,000.0	2,782,000.0	2,870,000.0	2,482,000.0
Nashville Electric Service												
Unspecified (EZ)												5,766.9
National By-Products Inc												
Direct								437.3	5,825.9	4,840.7	4,848.9	4,111.4

Table B2. Project Level Emission Reductions and Sequestration Reported, Data Year 2002 (Continued)
(Metric Tons Carbon Dioxide Equivalent)

Reporter and Reduction Type	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
National Grid USA												
Indirect	97,490.4	236,906.0	375,249.6	534,297.4	740,971.7	840,422.8	990,735.3	1,109,891.4	1,165,613.3	1,221,463.3	2,829,828.0	1,459,178.8
Direct	2,490,763.4	1,646,778.3	3,267,287.1	4,218,390.7	3,700,151.9	4,307,314.2	2,950,224.1	3,844,762.0	2,477,915.5	2,141,484.9	45,766.4	27,676.2
Natural Power, Inc.												
Direct	89,206.2	81,400.8	88,179.3	108,179.1	113,380.0	140,815.0	133,003.3	222,833.6	387,525.8	355,201.0	207,238.2	212,425.5
Indirect	10,745.6	10,257.5	10,243.0	10,522.4	10,160.5	11,791.6	12,003.9	16,321.2	14,593.0	16,890.9	15,905.7	15,515.6
NC Muni Landfill Gas Partners, LLC												
Direct						32,362.0	62,136.7	80,998.9	82,396.9	65,871.6	71,672.1	64,682.3
Indirect								173.3	167.8	158.8	206.8	183.3
Nebraska Public Power District												
Unspecified (EZ)												871,515.2
NEO Corporation												
Direct					289,103.9	402,046.7	2,911,813.7	5,917,873.5	6,838,711.0	7,121,322.5	6,939,857.6	6,616,206.7
New Jersey Meadowlands Commission												
Direct	324,940.8	368,273.8	394,914.5	378,380.9	370,838.1	397,576.9	413,895.6	871,904.6	813,857.4	735,112.0	679,350.6	506,378.8
Newton Landfill Gas, LLC												
Indirect										27.2	0.0	0.0
Direct							12,491.0	45,853.7	28,878.4	26,439.9	21,107.5	19,270.4
NiSource/NIPSCO												
Indirect	19,413.8	-1.0	20,885.8	29,560.6	99,317.7	116,020.3	121,525.1	114,054.3	111,371.8	98,726.3	120,346.9	129,843.1
Sequestration			4.2	58.4	1,264.9	1,348.3	1,277.5	1,098.6	1,042.6	349.6	398.5	354.4
Direct	7,034.5	10,279.9	500,150.0	514,932.7	626,471.1	1,130,250.8	1,582,926.0	2,067,810.7	2,566,342.3	3,137,375.3	3,562,519.8	6,636,878.4
Noranda Aluminum Inc.												
Direct	2,595,400.0	2,784,500.0	2,853,400.0	2,939,400.0	2,922,300.0	3,272,500.0	3,255,400.0	3,404,600.0	3,347,100.0	3,255,400.0	3,163,700.0	3,180,800.0
North American Carbon, Inc.												
Indirect		11,746.2	25,004.2	40,768.1	82,241.3	114,214.6	120,823.4	159,655.1	247,800.0	232,826.5	136,073.2	111,689.0
North Carolina Biomass Partners												
Unspecified (EZ)												59,557.6
North Carolina Electric Membership Corporation												
Unspecified (EZ)												545,429.4
Northern Neck Electric Cooperative												
Indirect	931.0	891.2	2,121.2	1,431.8	2,425.8	2,825.6	2,055.4	3,330.9	1,560.5	3,087.4	3,521.2	1,124.7
Northern Virginia Electric Cooperative												
Indirect	37.1	15,275.4	27,979.3	9,958.3	32,283.5	32,436.6	30,892.4	33,140.2	43,336.4	22,383.2	27,219.9	61,307.0
Northwest Fuel Development, Inc.												
Direct		553.4	20,438.9	261,496.0	11,539.4	11,720.8	4,965.9	15,378.6	12,913.8	6,572.6	92,909.8	3,009.1
Indirect		45.4	281.2	1,270.1	1,578.5	1,605.7	451.8	1,086.8	1,922.3	0.0	4,125.9	261.3
Ocean County Landfill Corporation												
Indirect							-9,407.1	-11,084.9	-10,561.9	-10,478.0	-10,686.0	-11,901.0
Direct			258,743.5	262,789.7	278,504.9	274,292.0	254,508.3	335,322.6	447,370.4	516,803.0	471,765.6	504,824.0
Old Dominion Electric Cooperative												
Sequestration					0.3	1.2	1.4	1.7	2.0	2.3	2.7	4.3
Indirect					60.0	61.5	61.5	61.5	61.5	61.5	70.2	70.2
Omaha Public Power District												
Unspecified (EZ)												2,675,985.0
Orlando Utilities Commission (OUC)												
Unspecified (EZ)												33,054.2
PacifiCorp												
Sequestration			360.9	2,393.6	169,911.0	169,923.5	904,637.5	903,748.7	903,070.4	759,307.7	767,832.5	81,254.5
Indirect	36,603.1	108,214.4	107,523.2	120,175.0	128,452.4	240,580.4	189,899.1	312,896.1	717,984.1	513,845.7	318,328.3	434,748.3
Direct			98,682.7	247,726.8	452,700.6	514,083.5	388,807.6	584,208.9	765,645.8	887,935.2	989,378.5	1,018,944.5
Palmer Capital Corporation												
Direct	489,420.7	885,021.1	1,080,948.5	1,068,935.3	1,276,333.8	2,069,062.3	4,534,869.0	5,245,307.4	5,628,924.2	5,988,576.8	5,562,563.1	5,206,941.2
Indirect	-618.2	-43,422.6	-60,969.9	-42,679.1	-32,205.7	-48,600.4	-68,432.3	-89,323.0	-153,698.8	-162,019.7	-136,702.4	-127,687.1
Peabody Holding Company, Inc.												
Direct	15,106.4	35,930.0	59,528.6	52,643.0	81,624.9	106,433.6	81,165.8	93,538.9	90,346.5	132,410.9	75,031.4	289,171.5
PEI Power Corp												
Indirect								7,449.5	16,321.4	18,391.4	36,168.7	
Direct								131.0	299.7	326.0	628.2	
PG&E Corporation												
Direct	351,148.6	1,447,216.5	2,231,879.6	3,571,277.2	4,908,632.7	6,479,076.6	7,422,480.8	7,896,522.1	7,494,953.8	7,726,502.5	8,634,529.0	6,808,764.8
Sequestration			8,681.8	24,930.3	57,790.3	44,248.8	42,312.4	40,619.3	36,631.9	21,404.8	18,975.5	15,734.8
Indirect	292,005.6	133,708.2	394,541.9	255,464.1	214,280.7	496,732.7	696,807.7	420,817.6	984,547.7	918,254.3	877,438.2	1,738,598.4
Pharmacia & Upjohn Caribe Inc.												
Unspecified (EZ)												5,539.2
Pitt Landfill Gas, LLC												
Indirect								754.8	985.2	891.8	1,026.9	967.1
Direct								69,395.1	71,827.3	67,274.1	69,094.8	64,168.8
Platte River Power Authority & 4 Owner Cities												
Direct	7,250.7	3,021.9	15,306.3	4,609.3	4,414.5	9,508.7	10,012.2	9,787.9	9,624.3	8,129.0	5,854.6	11,917.2
Indirect	35,437.1	37,304.4	48,330.5	46,186.7	47,518.6	59,947.7	82,824.2	60,306.7	78,536.1	81,991.4	107,007.4	110,163.9
Portland General Electric Co.												
Direct			2.8	8.4	8.4	11.6	23.2	39.4	52.0	59.0	59.0	63.6
Sequestration						0.5	135.0	472.7	900.1	1,421.8	2,145.9	2,658.3
Indirect	102,700.4	174,443.6	282,919.8	474,990.4	676,190.1	755,674.6	796,810.7	849,906.3	933,405.8	1,018,589.2	1,152,375.5	1,303,781.4
Prince George Electric Cooperative												
Indirect	15.2	30.4	44.8	60.0	60.0	1,383.3	2,259.2	5,135.3	5,113.4	6,215.8	1,814.2	3,774.1
Public Service Company of New Mexico												
Direct	501,925.2	568,855.2	183,984.2	322,415.1	763,258.4	1,333,792.9	1,554,078.5	1,496,336.4	1,945,937.2	1,671,397.3	1,498,850.7	1,691,854.3
Public Service Enterprise Group												
Sequestration					1,203.4	1,203.4	2,175.9	2,637.8	3,151.7	794.6	902.5	696.7
Indirect	68,133.2	105,519.2	157,706.8	221,479.2	362,750.5	729,347.5	906,479.4	1,143,728.3	1,275,447.8	1,968,817.9	1,713,760.6	3,395,826.0
Direct					-442.7	-418.2	-406.4	-381.0	-356.5	-332.0	-430.9	-393.7
Public Utility District No. 1 of Snohomish County												
Indirect	1,292.4	22,895.4	44,396.1	65,055.9	89,978.5	113,425.8	120,001.3	119,978.0	125,874.8	131,574.5	158,363.0	181,956.4
Direct	0.5	1.5	2.4	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.4	3.1
Rappahannock Electric Cooperative												
Sequestration	0.1	0.3	0.6	0.9	1.4	2.1	2.7	3.3	3.7	5.0	6.2	4.5
Indirect	2,016.3	1,591.7	12,757.2	5,366.6	-10,595.1	32,812.7	27,408.0	35,049.1	34,585.0	35,638.1	44,151.3	35,367.0
Rolls-Royce Corporation												
Indirect									40,135.0	259,808.0	265,236.0	250,171.0
Direct							32,413.0	29,252.0	30,809.0	29,921.0	28,601.0	30,368.0

Table B2. Project Level Emission Reductions and Sequestration Reported, Data Year 2002 (Continued)
(Metric Tons Carbon Dioxide Equivalent)

Reporter and Reduction Type	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Sacramento Municipal Utility District												
Sequestration	68.9	184.2	367.4	618.7	889.9	1,158.5	1,439.7	1,763.6	1,945.0	2,277.9	2,650.8	3,026.4
Direct				11.8	24.5	8.2	19.1	14.5	18.1	19.1	22.7	28.1
Indirect				517.1	922.6	460,051.6	489,295.6	497,238.9	513,459.3	523,369.4	545,598.2	609,033.1
Salt River Project												
Unspecified (EZ)												1,958,593.8
Santee Cooper												
Sequestration	155.0	397.2	874.8	921.4	940.4	979.6	1,246.7	2,173.4	2,195.4	2,268.9	3,621.0	7,665.3
Indirect	20,217.5	27,473.2	22,376.6	16,759.3	78,350.8	106,423.7	148,845.4	173,050.0	139,905.1	106,432.7	154,555.3	196,527.1
Direct	12,789.5	17,696.5	185,505.7	169,824.1	217,229.9	453,129.7	426,433.1	880,178.8	1,093,337.3	1,193,597.6	1,151,566.8	1,168,826.0
Seattle City Light												
Indirect	7,238.4	32,305.8	55,182.2	82,948.4	123,562.2	169,861.3	186,988.0	209,811.9	238,504.3	246,490.3	278,728.0	318,161.5
Sequestration					2.1	9.1	15.1	21.4	29.7	41.3	51.8	62.0
SeaWest WindPower, Inc.												
Indirect			4,598.3	4,603.8	4,822.6	8,860.3	6,933.4	3,601.5	69,926.4	102,207.1	141,109.9	220,944.9
Seminole Electric Cooperative, Inc.												
Unspecified (EZ)												290,679.9
Seneca Energy II, LLC												
Indirect							204,751.6	310,055.8	448,068.6	464,379.7	478,211.6	438,304.5
Shenandoah Valley Electric Cooperative												
Indirect		229.0	896.7	919.7	1,104.4	15,209.6	10,083.8	14,226.8	14,916.4	13,872.2	18,095.4	24,401.2
Sequestration			0.1	0.2	0.3	0.4	0.6	0.7	0.9	1.0	1.1	0.8
Shih Family												
Unspecified (EZ)												4.3
Shrewsbury Electric Light Plant												
Unspecified (EZ)												2,065.7
Sikorsky Aircraft Corporation												
Indirect	0.0	15.5	422.3	2,003.9	2,461.7	3,094.0	3,854.1	4,401.0	4,608.3	5,078.3	4,526.4	4,833.0
Direct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	169.6	254.4	254.4
South Carolina Electric & Gas Company												
Direct				96,171.7	323,953.9	316,216.5	1,794,123.0	1,801,923.0	1,806,406.3	1,763,655.8	1,769,906.6	2,060,843.5
Indirect	44,521.9	53,096.6	70,861.1	81,332.7	90,622.3	104,581.2	109,589.7	57,968.2	109,764.8	123,711.9	146,583.8	221,384.8
Sequestration			486.3	882.5	3,236.7	3,699.1	4,055.2	4,050.0	4,132.2	3,994.3	4,087.0	4,222.8
Southeastern Biomass Partners, LP												
Unspecified (EZ)												95,040.9
Southern California Edison Co.												
Direct	789,250.8	1,464,196.3	1,860,636.0	4,024,634.6	3,104,840.0	4,689,374.3	4,148,050.8	5,571,862.8	5,590,147.1	6,752,577.7	5,626,677.6	7,698,494.4
Sequestration	24,379.7	24,483.1	24,305.3	24,434.7	24,712.8	24,550.4	24,618.2	24,547.3	24,552.4	24,556.8	24,576.6	24,675.2
Indirect	57,969.1	57,969.1	59,783.5	64,773.0	72,393.3	82,190.9	85,910.4	108,045.7	111,493.0	120,202.0	116,119.7	113,942.4
Southern Company[p]												
Sequestration	1,993.0	3,398.0	4,477.0	5,630.0	20,760.8	42,431.8	82,418.8	107,612.5	157,892.0	163,925.1	176,515.0	194,226.4
Indirect		1,460.5	4,577.0	181,583.8	341,136.2	418,911.3	768,313.4	961,011.9	1,618,506.9	2,081,238.6	2,502,253.8	3,088,713.5
Direct	770,340.0	2,255,635.0	2,441,647.0	2,863,002.0	3,376,687.0	3,483,795.0	3,741,520.0	2,666,235.0	4,926,296.0	6,356,527.0	12,030,927.0	15,790,987.0
Southside Electric Cooperative												
Indirect	-1,000.6	-21,788.9	-17,971.5	-3,031.3	-15,547.7	-8,474.9	9,407.1	13,051.4	5,158.1	21,018.9	16,683.5	14,083.6
Springs Industries, Inc.												
Unspecified (EZ)												72,726.0
Steuben Rural Electric Co-op												
Unspecified (EZ)												2,271.9
Tacoma Power												
Unspecified (EZ)												5,796.5
Tampa Electric Company												
Indirect	240,404.0	237,682.4	234,053.7	240,585.4	265,406.0	267,583.2	266,857.5	271,908.7	268,024.1	321,130.7	323,092.1	294,353.3
Sequestration					1,203.4	1,203.4	1,129.7	947.9	881.1	184.3	209.2	161.7
Tennessee Valley Authority												
Indirect		74,101.6	74,652.2	84,670.7	119,617.2	157,217.5	221,937.2	376,684.5	246,132.5	219,627.3	230,956.2	268,932.8
Direct	2,860,047.3	8,560,178.8	6,971,810.6	7,764,758.3	10,285,021.3	22,314,014.5	23,905,215.8	25,646,860.3	25,758,776.8	27,231,070.0	27,032,530.5	26,309,977.6
Sequestration	1,064.1	1,710.0	2,700.7	3,087.1	30,548.5	31,602.7	31,749.3	28,665.7	28,561.3	13,569.6	16,339.3	17,828.2
Texas Genco, LP												
Direct	15,422.1	25,401.2	60,781.4	288,303.3	-104,326.3	-43,544.9	-97,976.0	-73,482.0	-31,751.5	-165,107.6	1,814.4	141,520.8
Indirect	139,706.5	160,571.7	194,137.5	225,889.0	563,361.8	663,152.1	641,379.7	708,511.3	688,553.3	654,987.4	647,729.9	675,852.7
The Empire District Electric Co.												
Sequestration					1,203.4	1,203.4	1,129.7	947.9	881.1	184.3	209.2	164.4
The Estee Lauder Companies												
Direct									17.8	35.7	35.7	35.7
Indirect									253.7	981.3	1,330.7	1,683.6
Tucson Electric Power Company												
Indirect	6,754.0	36,682.4	67,156.8	93,247.9	108,199.8	101,059.3	128,795.3	109,549.2	117,394.7	122,357.1	124,569.7	117,006.6
Sequestration			1.2	1.8	1,213.6	1,225.1	1,163.3	1,810.9	1,700.3	425.4	498.1	420.1
Direct	34,429.1	29,998.3	47,822.1	35,093.7	35,879.1	38,608.1	76,680.7	76,209.9	51,883.4	67,808.0	69,723.1	98,749.7
TXU												
Sequestration	543.4	1,086.8	1,628.4	2,171.8	5,629.5	7,567.3	13,099.1	16,752.0	19,292.4	21,968.6	26,118.4	27,704.7
Indirect	93,353.9	115,225.3	84,618.2	104,562.5	108,526.4	367,664.8	389,881.7	693,813.9	663,549.3	782,062.2	934,197.0	906,985.5
Direct	6,498,983.5	8,103,439.2	11,718,778.8	15,542,079.1	17,822,884.5	15,997,578.4	18,595,572.8	18,746,599.1	18,409,942.1	19,867,473.0	20,273,952.0	19,785,779.5
U. S. Steel Mining Company, LLC												
Indirect	6,841.1	7,371.8	6,349.4	5,991.0	7,578.6	7,967.8	6,920.0	7,623.1	10,046.2	10,072.5	12,390.3	14,072.3
Direct	1,316,548.3	1,407,393.8	1,213,493.9	1,155,020.4	1,458,843.9	1,547,753.4	1,333,045.5	1,468,430.1	1,979,958.0	2,005,950.7	2,457,071.9	2,686,189.6
US Energy Biogas Corp.												
Unspecified (EZ)												2,547,584.5
Utah Municipal Power Agency												
Unspecified (EZ)												30,966.3
Vermont Public Power Supply Authority												
Indirect		28.8	61.8	851.5	1,286.9	1,913.5	2,069.1	2,243.5	1,781.6	1,856.1	1,161.3	2,522.6
Waste Management Inc.												
Direct					10,006,541.0	12,211,321.0	14,240,657.0	16,582,034.0	18,548,879.0	21,631,730.0	26,075,353.0	30,086,208.0
Indirect					410,464.0	460,828.0	493,770.0	509,783.0	525,247.0	550,165.0	597,914.0	712,665.0
Waverly Light & Power Company												
Indirect	1,129.4	3,207.8	4,047.0	7,099.6	6,504.5	5,878.6	5,393.2	4,977.7	5,509.3	6,353.9	7,560.5	7,970.5
Sequestration	18.1	36.3	54.4	72.6	84.4	95.3	106.1	116.1	124.3	132.4	137.0	144.2
Direct	3,009.1	5,805.1	9,168.9	11,063.1	11,718.1	12,699.7	13,417.3	13,554.2	15,296.0	15,641.7	16,786.5	18,162.7

Table B2. Project Level Emission Reductions and Sequestration Reported, Data Year 2002 (Continued)
(Metric Tons Carbon Dioxide Equivalent)

Reporter and Reduction Type		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
We Energies													
	Sequestration					162,695.7	162,695.4	207,508.3	380,886.6	380,819.8	240,154.0	206,444.9	74,379.6
	Indirect	709,256.0	813,922.4	861,951.2	927,820.1	958,462.2	979,954.4	955,314.7	941,701.7	988,223.2	1,193,004.4	1,231,659.6	1,350,429.7
	Direct	467,274.6	955,345.8	1,638,466.4	2,231,599.8	2,431,109.1	2,824,947.1	3,121,149.8	3,000,731.9	3,039,947.5	3,255,218.6	2,900,389.7	2,741,720.6
Wisconsin Public Power Inc.													
	Unspecified (EZ)												50,468.4
Xcel Energy													
	Indirect	68,247.4	79,674.5	134,447.7	187,986.1	353,747.2	445,145.7	513,988.8	577,501.9	635,591.5	704,282.2	779,193.4	667,312.2
	Direct	249,411.3	612,443.8	1,171,007.5	1,885,369.1	2,818,348.8	3,477,596.0	3,922,216.2	4,643,051.9	5,581,822.7	5,812,621.7	5,870,930.4	6,661,495.5
Zeeland Board of Public Works													
	Unspecified (EZ)												397.7

Notes: (p) Indicates that the report has Preliminary status, meaning the initial submission has been reviewed by EIA but a final version has not been accepted.
This table excludes data reported as confidential; a negative reduction represents an increase in emissions.
Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ

Table B3. Entity-Level Emission Reductions Reported, Data Year 2002
(Metric Tons Carbon Dioxide Equivalent)

Reporter and Gas		Reduction Type	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
AES Hawaii, Inc.														
	CO2	Sequestration		1,530,000.0	1,530,000.0	1,530,000.0	1,530,000.0	1,530,000.0	1,530,000.0	1,530,000.0	1,530,000.0	1,530,000.0	1,530,000.0	1,530,000.0
AES Shady Point LLC														
	CO2	Sequestration			4,150,000.0	4,150,000.0	4,150,000.0	4,150,000.0	4,150,000.0	4,150,000.0	4,150,000.0	4,150,000.0	4,150,000.0	4,150,000.0
AES Thames														
	CO2	Sequestration	550,000.0	70,000.0	290,000.0	370,000.0	480,000.0	440,000.0	440,000.0	590,000.0	530,000.0	370,000.0	410,000.0	410,000.0
AES Warrior Run, Inc.														
	CH4	Indirect						2,925.6	15,518.1	30,562.4	31,707.8	20,016.9	21,045.0	21,134.7
Ajinomoto Aminoscience LLC														
	CO2	Direct		127,233.0	187,490.0	142,854.0	331,689.0	175,210.0	120,393.0	232,611.0	232,325.0	149,098.0	288,101.0	677,114.0
	CO2	Indirect		1,690.0	-33.0	-170.0	1,884.0	1,728.0	2,565.0	4,618.0	4,407.0	3,372.0	4,718.0	5,946.0
Alcan Primary Metals Group, Sebree Works														
	22	Direct	-210.9	31,150.5	31,344.3	87,392.4	104,469.6	122,629.8	78,791.1	182,343.0	249,129.9	229,767.0	365,010.9	376,103.1
Allegheny Energy, Inc.														
	28	Direct							134,531.9	194,346.2	59,814.3	44,911.1	0.0	0.0
	CH4	Indirect						252.5	315.1	388.1	450.7	502.9	500.8	500.8
	CO2	Sequestration	26.6	66.5	66.5	66.5	4,278.3	4,291.6	5,099.9	5,107.1	5,453.9	1,490.5	1,857.4	1,620.8
	CO2	Direct	158,688.4	240,496.5	330,729.6	526,287.8	812,086.4	963,416.6	906,109.8	1,142,380.6	1,207,141.8	1,363,644.8	135,568.8	1,458,303.2
	CO2	Indirect	11,209.2	29,542.5	37,098.4	39,192.2	70,261.6	68,056.1	98,049.4	162,318.0	261,105.9	244,321.2	226,397.9	201,458.5
Allergan, Inc.														
	03	Direct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CO2	Direct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	552.0	552.0	552.0	552.0	875.3
	CO2	Indirect	0.0	0.0	0.0	0.0	115.7	115.7	501.2	2,921.6	3,664.7	5,152.0	8,263.6	12,389.2
Alliant Energy														
	22	Indirect											32.5	129.4
	23	Indirect											6.0	22.6
	CH4	Indirect											50.4	105.6
	CO2	Sequestration	17.0	28,203.0	28,257.0	28,327.0	29,617.4	29,715.4	30,226.7	30,149.8	30,784.1	30,490.2	30,689.8	30,854.2
	CO2	Direct	49,745.0	82,568.0	142,274.0	232,179.2	317,864.9	454,535.5	554,406.5	794,214.5	1,112,819.6	1,662,104.6	1,791,644.6	2,105,609.0
	CO2	Indirect	17,835.0	27,971.0	41,300.0	59,367.0	73,045.0	371,566.0	379,493.0	393,118.0	386,945.0	458,602.0	789,319.9	794,093.9
Arizona Public Service Company														
	CO2	Direct	1,702,868.4	1,288,656.9	1,050,245.1	1,266,240.4	2,647,237.8	2,857,145.9	2,125,011.4	1,518,906.8	903,797.4	-594,249.6	-1,424,242.9	-161,810.0
	CO2	Indirect	-14,801.6	-25,120.9	-11,618.3	-14,064.1	-8,917.6	-3,558.9	18,634.5	19,962.6	28,588.1	35,493.6	120,867.9	350,126.2
Azdel, Inc														
	CO2	Direct									0.0	0.0	0.0	0.6
	CO2	Indirect									212.0	785.0	368.0	1,624.0
Baxter Healthcare Inc.														
	CO2	Direct				0.0	-402.0	1,786.0	1,346.0	1,405.0	536.0	1,261.0	-129.0	1,316.0
	CO2	Indirect				0.0	1,247.0	93.0	73.0	-490.0	-1,665.0	2,719.0	6,581.0	4,345.0
Berkshire Power LLC														
	CO2	Direct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-276,913.6	-247,834.7	-533,682.3
	CO2	Indirect	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	381,369.6	418,509.7	930,870.5
	NOx	Direct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	NOx	Indirect	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bethlehem Steel Corporation[6]														
	CO2	Direct							1,915,067.1	3,146,116.9	3,484,496.8	3,549,814.1	3,783,867.8	4,851,624.3
	CO2	Indirect							379,203.2	391,903.8	497,137.3	390,089.5	226,796.2	342,008.7
Black Beauty Coal Company, c/o Peabody Energy														
	CH4	Direct	-21,228.9	-105,984.0	-172,982.9	-229,907.9	222,180.0	-320,988.0	-521,731.8	-721,463.8	-686,319.8	-770,431.0	-948,013.9	-908,292.9
	CO2	Direct	-329.3	-28,863.9	-50,869.5	-67,003.8	-75,048.7	-106,806.5	-187,904.3	-260,859.2	-222,257.6	-257,257.7	-343,751.4	-299,032.6
	CO2	Indirect	-1,123.1	-7,891.6	-18,794.1	-20,740.1	-13,244.0	-14,906.9	-36,170.4	-67,310.4	-93,066.3	-109,549.8	-125,621.5	-142,030.7
Bountiful City Light & Power														
	CO2	Sequestration					0.0	0.3	0.5	1.0	1.4	1.9	2.5	2.9
	CO2	Direct	27.6	1,337.9	10,309.7	6,426.3	11,850.7	14,629.0	16,796.3	19,190.6	15,517.2	4,285.0	2,133.6	6,439.2
Cargill, Inc. - Oil Seeds Division														
	CO2	Direct					1,269.0	-103.7	-692.3	-242.6	1,386.8	2,300.2	437.9	2,101.8
	CO2	Indirect					173.9	305.1	-342.9	-183.7	-234.5	-329.9	306.8	343.1
Cinergy Corp.														
	28	Direct										20,593.0	6,102.4	60,218.1
	CH4	Direct												13,520.7
	CH4	Indirect		454,320.0	404,931.9	431,282.6	466,722.3	613,521.8	617,085.6	653,691.6	661,361.7	683,666.6	649,291.1	671,498.0
	CO2	Sequestration	1.6	24.2	283.9	510.8	169,479.1	169,794.2	170,722.2	170,879.5	173,856.2	30,622.6	42,161.1	35,498.0
	CO2	Direct	120.4	95,407.0	194,296.9	400,975.8	1,128,605.7	1,275,493.5	1,350,417.9	1,381,451.8	1,425,186.2	1,456,858.8	1,387,603.4	1,402,050.3
	CO2	Indirect	63,887.6	64,994.3	62,685.6	42,435.5	98,159.8	134,079.9	125,317.7	126,943.1	128,079.2	125,850.0	94,037.0	116,113.3
COMMSCOPE CATAWBA PLANT														
	CO2	Direct										0.0	-81.0	-84.1
	CO2	Indirect										0.0	-4,409.0	-1,669.0
COMMSCOPE CLAREMONT PLANT														
	CO2	Direct											205.0	-226.8
	CO2	Indirect											-812.0	-3,776.0
COMMSCOPE CONOVER REEL RECYCLING														
	CO2	Direct											-16.0	-29.0
	CO2	Indirect											0.0	27.0
COMMSCOPE NEWTON PLANT														
	CO2	Direct											207.0	-338.0
	CO2	Indirect											-341.0	-3,679.0
COMMSCOPE SCOTTSBORO PLANT														
	CO2	Direct											-5.0	6.0
	CO2	Indirect											-240.0	228.9
COMMSCOPE SPARKS PLANT														
	CO2	Direct												261.0
	CO2	Indirect												723.0
COMMSCOPE STATESVILLE PLANT														
	CO2	Direct											-1,767.0	393.0
	CO2	Indirect											-6,530.0	13,279.0
Consol Coal Group														
	CH4	Direct		2,065,096.4	6,948,024.1	13,354,740.9	12,109,607.1	14,389,699.1	13,752,057.0	13,917,831.4	17,195,324.1	17,681,296.6	18,747,448.3	18,853,423.0
Consolidated Edison Company of New York, Inc.														
	CH4	Indirect	26,123.3	36,117.7	44,630.8	54,833.9	59,090.4	65,454.3	69,230.9	73,967.3	78,662.0	76,763.3	80,685.9	117,513.1
	CO2	Direct	2,111,502.6	2,362,581.4	2,778,264.3	2,558,252.1	2,616,122.3	3,854,943.0	4,065,381.8	2,935,067.6	2,189,429.7	902,833.0	-194,307.2	-643,648.5
Constellation Energy Group, Inc														
	01	Direct						0.0	0.0	0.0				
	02	Direct			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	07	Direct			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	08	Indirect					0.0	0.0						
	22	Indirect			9.0	2,625.1	2,504.1	2,230.5	2,347.9	1,952.3	1,838.8	1,924.9	766.9	1,481.5
	23	Indirect			1.6	464.8	443.2	394.6	415.6	345.5	325.5	340.6	135.5	264.5
	28	Direct								4,591.9	-6,354.1			
	28	Indirect							80.6	80.6	80.6	80.6	80.6	80.6
	99	Indirect							0.0	0.0				
	CH4	Direct			754.3	1,600.8	2,560.4	2,656.8	3,033.8	2,455.6	3,693.1	3,693.1	2,670.8	1,585.8
	CH4	Indirect			70.9	1,026.6	1,068.3	1,024.5	1,099.6	959.8	1,130.9	1,176.8	719.9	918.1
	CO2	Sequestration					1,203.4	1,203.4	1,129.7	947.9	881.1	252.0	286.2	220.8
	CO2	Direct	1,495.0	1,033,402.3	2,096,505.0	1,701,517.4	2,855,042.8	2,435,672.2	3,152,649.0	3,336,979.9	3,683,076.8	4,028,226.0	3,747,813.4	5,104,496.4
	CO2	Indirect			87,840.9	155,862.5	154,500.8	132,589.6	136,120.4	145,836.3	215,275.9	394,789.6	195,590.9	262,303.4
	NVOC	Indirect							0.0	0.0	0.0	0.0		

Table B3. Entity-Level Emission Reductions Reported, Data Year 2002 (Continued)
(Metric Tons Carbon Dioxide Equivalent)

Reporter and Gas		Reduction Type	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
DaimlerChrysler Corporation														
	CO2	Sequestration						1.2	1.6	1.9	3.2	4.2	4.9	5.6
	CO2	Direct				13,024.0	68,856.0	88,338.0	112,115.0	115,370.0	156,956.0	244,613.0	259,122.0	253,716.0
	CO2	Indirect					38,108.0	70,903.0	117,620.0	135,866.0	141,505.0	137,360.0	159,593.0	166,968.0
Danaher Controls														
	CO2	Direct							-84.0	35.0	58.0	-75.0	-11.0	-28.0
	CO2	Indirect							154.0	-325.0	812.0	1,075.0	730.0	39.0
Doxey Furniture Corporation														
	CO2	Direct										-32.0	-26.0	16.8
	CO2	Indirect										-79.0	-97.0	38.0
DTE Energy/ Detroit Edison														
	CO2	Sequestration					167,972.5	168,929.6	192,001.1	205,260.5	226,564.9	84,308.3	112,781.2	117,465.9
	CO2	Direct	67,920.0	3,499,116.1	1,095,962.7	-2,520,645.6	-1,899,734.8	-2,210,056.4	-2,222,171.8	-3,754,608.4	-2,373,620.9	-1,176,943.5	551,498.5	1,320,515.4
	CO2	Indirect	-1,162,697.0	-768,695.8	-318,143.4	-4,501,857.4	-3,423,902.3	-3,216,901.8	-4,165,280.9	-5,129,972.2	-4,729,454.6	-6,652,108.5	-4,442,287.1	-7,555,877.8
Duke Energy Corporation														
	28	Direct											44,400.0	111,000.0
	CH4	Direct			258,336.0	208,058.0	125,833.0	160,287.0	141,933.0	129,605.0	217,212.0	208,288.0	224,158.0	390,287.0
	CH4	Indirect							155,112.0	208,909.0	25,645.0	28,865.0	28,497.0	
	CO2	Sequestration					1,203.4	1,203.4	2,175.7	2,642.4	3,151.5	794.5	902.2	696.7
	CO2	Direct	7,898,659.0	6,883,847.0	6,858,749.0	9,350,458.0	12,640,570.0	5,524,723.0	3,977,240.0	12,017,898.0	13,142,008.0	14,809,531.0	14,276,289.0	12,824,739.0
	CO2	Indirect	-33,173.0	-15,919.0	29,057.0	72,973.0	166,484.0	126,998.0	77,916.0	94,842.0	128,661.0	105,336.0	84,672.0	83,323.0
Dynegy Midwest Generation Inc.														
	CO2	Sequestration					4,813.5	11,073.1	23,163.7	34,665.5	47,782.9	90,699.2	131,338.9	151,346.7
	CO2	Direct	1,934.1	39,384.5	64,818.4	173,310.4	296,271.1	259,458.5	278,559.3	349,213.5	119,006.3	128,828.4	142,751.0	284,768.0
	CO2	Indirect		7,037.9	4,582.2	3,806.5	4,260.1	7,713.8	2,086.5	3,682.3	10,847.2	70,238.8	25,406.6	43,546.7
Entergy Services, Inc.														
	28	Direct											0.0	-52,111.8
	CH4	Direct	813.7	709.4	709.4	792.9	1,314.5	1,398.0	1,147.6	1,001.5	980.7	1,794.4	1,794.4	1,773.5
	CO2	Sequestration					2,406.8	22,364.8	46,376.9	66,981.5	67,999.9	63,285.8	63,711.1	64,028.0
	CO2	Direct	446,689.6	426,496.6	803,763.0	736,939.8	2,501,496.8	2,851,100.4	5,588,604.0	6,413,449.1	3,731,743.7	5,927,474.7	6,738,683.9	8,046,605.8
	CO2	Indirect	70,418.4	83,248.7	94,392.6	120,298.1	227,756.9	230,687.1	267,216.7	298,034.7	333,864.0	289,077.2	276,078.1	193,373.7
FirstEnergy Corporation														
	01	Direct				0.0								
	02	Direct				0.0				0.0				
	02	Indirect				0.0	0.0	0.0						
	07	Direct				0.0								
	22	Indirect	1,427.5	1,421.0	1,835.7	1,822.0	1,647.5	1,818.1	1,581.6	1,525.5	1,682.4	2,198.0	1,697.7	1,410.1
	23	Indirect	252.6	251.5	324.9	322.3	291.5	321.7	280.1	269.9	298.0	389.2	300.7	249.4
	28	Direct										4,168.9	2,537.6	22,808.4
	99	Direct				0.0				0.0				
	CH4	Direct	2.6	8.4	15.0	23.0	31.5	42.9	43.9	53.2	37.7	8.7	6.9	7.3
	CH4	Indirect	46,969.8	49,440.2	53,763.5	50,994.7	41,634.5	28,157.7	332,671.4	607,128.7	828,294.1	903,083.5	912,145.3	846,958.1
	CO2	Sequestration		12.1	26.8	41.9	18,107.7	18,123.1	29,586.3	25,707.6	24,579.3	5,386.0	6,113.1	4,764.7
	CO2	Direct	3,439,754.2	4,367,833.4	1,325,633.0	2,266,758.3	5,676,463.8	4,204,905.3	5,411,061.7	11,054,134.4	10,977,100.8	14,798,440.5	14,208,697.4	10,683,024.7
	CO2	Indirect	72,364.0	77,721.3	82,682.0	74,533.7	65,904.0	83,647.4	49,713.8	64,750.7	63,165.7	4,479.5	35,590.9	145,644.7
	N2O	Direct	50.5	157.2	292.8	436.3	624.8	788.6	846.4	994.6	571.4	65.1	59.0	59.2
	N2O	Indirect		0.4	0.6	0.7	63.0	13.3	0.8	0.5	0.6	0.7	0.1	0.0
Florida Power Corporation														
	CO2	Direct				4,437,346.6	5,607,020.8	3,985,429.7	2,934,596.8	3,114,657.5	5,040,912.0	4,752,599.6	2,878,318.7	5,417,402.8
Ford Motor Company														
	CO2	Direct								39,468.0	38,170.0	92,990.0	108,101.0	207,466.0
	CO2	Indirect								57,290.0	67,546.0	116,709.0	133,872.0	158,668.0
FPL Group														
	22	Indirect											10,688.5	12,283.8
	23	Indirect											1,894.6	2,175.3
	28	Direct									66,481.6	74,074.3	100,699.2	107,264.8
	CH4	Indirect								46,713.1	138,111.3	241,767.7	231,018.0	279,828.0
	CO2	Sequestration					3,008.4	3,008.4	2,824.3	2,369.4	2,202.6	460.6	523.1	404.0
	CO2	Direct	111,210.9	339,136.5	2,364,463.8	9,138,863.6	10,478,542.4	11,160,131.2	11,207,785.6	13,181,219.2	13,108,021.1	13,367,130.3	13,655,998.9	19,283,506.8
	CO2	Indirect								20,828.1	1,967,980.5	1,568,425.5	1,795,015.7	3,508,847.5
Gas Recovery Systems														
	CO2	Indirect					62,305.0	66,036.0	73,062.0	73,085.0	64,596.0	405,745.0	426,286.0	426,599.0
General Motors Corporation														
	CO2	Sequestration	0.0	65.2	160.1	266.7	873.7	1,369.3	2,159.7	2,664.0	3,300.6	3,822.0	4,460.5	5,051.6
	CO2	Direct	323,000.0	430,000.0	-50,000.0	221,000.0	389,000.0	482,000.0	755,000.0	1,413,000.0	1,199,000.0	1,387,000.0	1,655,000.0	2,106,000.0
	CO2	Indirect	240,000.0	449,000.0	35,000.0	-272,000.0	-330,000.0	-126,000.0	-205,000.0	110,000.0	-20,000.0	141,000.0	454,000.0	454,000.0
Greater New Bedford Regional Refuse Mgt District														
	CH4	Direct										74,468.1	78,620.3	131,367.6
	CO2	Direct										-8,904.9	-9,400.2	-15,707.9
Hanes Dye and Finishing, Butner Plant														
	CO2	Direct												1,361.0
	CO2	Indirect												-437.0
Hanes Dye and Finishing, Winston-Salem Plant														
	CO2	Direct									-619.0	-89.0	686.0	
	CO2	Indirect									574.0	72.0	204.0	
Hawaiian Electric Company, Inc.														
	CO2	Sequestration					1,203.4	1,203.4	1,129.7	949.4	881.0	184.2	209.2	161.6
	CO2	Direct		965,244.6	1,627,489.5	1,753,588.2	1,632,025.5	1,522,256.1	1,602,088.4	1,591,202.1	1,421,558.6	1,299,995.8	1,524,977.6	1,372,570.6
	CO2	Indirect		-1,291,831.2	-1,903,273.7	-2,106,483.1	-2,220,788.4	-2,268,869.2	-2,292,456.0	-2,729,719.1	-2,718,832.8	-2,341,444.0	-2,571,868.9	-3,024,554.1
Highland Industries, Inc.														
	CO2	Direct										0.0	620.0	1,687.0
	CO2	Indirect										0.0	197.0	748.0
IBM														
	CO2	Direct	6,985.3	6,168.9	22,498.2	12,519.2	12,791.3	7,438.9	13,308.4	16,792.9	13,565.1	11,699.1	19,410.1	17,896.0
	CO2	Indirect	119,113.4	114,033.1	91,625.7	88,087.6	89,902.0	50,167.3	67,612.5	91,386.2	92,622.7	95,035.8	132,449.0	86,794.9
Integrated Waste Services Association														
	CH4	Direct	-692.7	-738.6	-738.6	-738.6	-886.8	-928.5	-895.1	-897.2	-968.1	-870.1	-870.1	-17,276.4
	CH4	Indirect	1,316,346.9	1,649,940.5	1,983,409.0	2,316,877.4	2,656,125.5	2,997,335.0	3,334,600.9	3,671,992.0	4,474,344.3	5,292,804.6	6,111,557.0	7,859,209.5
	CO	Direct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CO	Indirect	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CO2	Direct	-7,257,478.4	-7,711,070.8	-7,711,070.8	-7,711,070.8	-7,801,789.3	-7,892,507.8	-7,801,789.3	-7,801,789.3	-8,527,537.1	-9,434,721.9	-9,434,721.9	-9,434,721.9
	CO2	Indirect	12,337,713.3	13,154,179.6	13,154,179.6	13,154,179.6	15,785,015.5	16,510,763.4	15,966,452.5	16,057,171.0	17,145,792.7	15,422,141.6	15,422,141.6	15,331,423.1
	N2O	Direct	-2,685.3	-2,846.4	-2,846.4	-2,846.4	-3,437.1	-3,571.4	-3,464.0	-3,490.8	-3,732.5	-3,356.6	-3,356.6	-24,462.8
	N2O	Indirect	71,159.6	75,993.1	75,993.1	75,993.1	91,299.1	95,327.0	92,104.7	92,910.2	99,354.9	89,419.4	89,419.4	124,327.9
	NOx	Direct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	NOx	Indirect	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	NVOC	Indirect	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
International Truck and Engine Corporation														
	CO2	Direct						-25,709.6	-19,060.0	1,672.8	-1,070.5	15,419.4	5,144.6	14,671.0
	CO2	Indirect						21,750.7	28,331.4	4,750.0	-25,812.1	-30,828.9	-13,224.9	-38,864.7
Jim Walter Resources, Inc.														
	CH4	Direct	5,090,682.9	4,774,845.6	5,319,950.3	4,257,032.7	4,615,539.4	4,330,415.8	4,425,352.7	5,023,622.0	5,594,787.4	5,242,456.8	5,061,283.8	5,493,862.2
Johnson & Johnson														
	CO2	Direct	0.0	19,335.7	28,945.5	32,672.3	38,006.5	42,034.4	49,846.2	56,975.7	70,619.8	74,524.3	75,020.6	74,895.4
	CO2	Indirect	4,594.9	18,346.9	51,313.1	81,807.2	104,135.7	145,379.1	167,603.3	184,180.3	203,848.1	210,585.7	216,202.1	198,778.7
	NOx	Indirect	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table B3. Entity-Level Emission Reductions Reported, Data Year 2002 (Continued)
(Metric Tons Carbon Dioxide Equivalent)

Reporter and Gas	Reduction Type	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Kansas City Power & Light Company													
CO2	Sequestration					2,406.8	2,406.8	3,304.9	3,591.5	4,032.4	978.9	1,253.7	1,070.0
CO2	Direct	306,498.7	163,897.4	220,094.8	487,719.8	452,249.8	462,394.8	561,187.2	643,823.6	357,943.4	733,582.3	635,118.3	
CO2	Indirect	69,711.7	79,434.9	99,539.0	133,643.7	121,721.5	155,098.7	137,868.5	150,898.4	168,451.5	158,238.4	187,480.6	
KeySpan Energy Corporation													
CH4	Direct	0.0	0.0	1,024,483.8	1,510,644.1	2,021,842.8	2,522,608.8	3,188,210.3	3,855,898.3	3,855,898.3	3,855,898.3	7,847,420.7	7,847,420.7
CO2	Direct	2,064,389.7	4,594,165.3	4,963,117.3	6,497,348.3	6,151,166.5	5,790,742.0	5,269,382.9	4,882,287.2	3,690,699.9	2,712,119.7	2,229,951.0	2,077,181.0
CO2	Indirect	5,443.1	7,801.8	9,525.4	10,886.2	12,065.6	13,517.1	14,515.0	15,603.6	20,320.9	35,470.9	36,196.7	30,118.5
Lehigh Cement Co. (fmrly Lehigh Portland Cement Co													
CO2	Direct							130,518.0	245,165.0	269,430.0	195,464.0	236,081.0	287,227.0
CO2	Indirect							-20,053.0	-5,127.0	12,834.0	6,824.0	12,392.0	-4,533.0
Lehigh Cement Co. (formerly Calaveras Cement Co.)													
CO2	Direct	38,285.0	93,410.0	281,300.0	175,444.0	159,935.0	152,222.0	183,013.0	143,035.0	152,585.0	155,370.0	123,817.0	169,748.0
CO2	Indirect	-1,053.0	-3,328.0	-1,590.0	-284.0	-1,311.0	199.0	-448.0	205.0	-3,388.0	-3,510.0	-4,289.0	-1,465.0
Los Angeles Department of Water and Power													
CO2	Sequestration		1,669.2	2,003.1	2,003.1	2,003.1	2,003.1	2,003.1	2,126.4	2,434.2	2,531.9	2,623.1	4,013.0
CO2	Direct	1,089,280.4	-858,910.8	-245,537.7	-1,256,903.6	1,589,997.4	3,637,171.5	1,937,199.7	724,517.7	-564,933.9	-1,656,423.3	-1,099,134.2	1,252,007.6
CO2	Indirect	172,249.0	172,249.0	83,292.3	82,817.8	46,228.3	148,293.9	360,645.9	240,959.2	390,109.4	1,066,783.1	933,517.7	173,962.7
Lower Colorado River Authority													
CO2	Direct	15,422.1	26,489.8	41,458.3	59,239.2	98,429.6	226,342.6	266,258.7	285,672.5	280,138.7	310,620.1	415,672.1	511,380.1
CO2	Indirect	47,536.5	50,802.3	68,129.6	91,172.1	112,037.3	121,018.5	126,643.0	116,936.1	151,409.1	123,286.4	139,525.0	141,158.0
Lucent Technologies Inc.													
22	Indirect						2,547.3	2,016.3	9,622.6	3.6	620.1	1,175.5	629.4
23	Indirect						450.8	356.9	1,703.1	0.6	109.7	208.0	111.4
CH4	Indirect						702.5	712.5	2,577.9	851.9	1,207.4	1,853.2	596.7
CO2	Direct			7,946.9	15,508.3	13,996.0	15,790.5	13,371.0	10,332.8	12,052.9	13,149.8	11,329.2	7,236.9
CO2	Indirect						17,184.0	14,014.0	65,892.9	8,313.8	19,444.2	28,735.2	13,427.4
N2O	Indirect										49.7	43.5	24.9
NVOC	Direct									0.0	0.0	0.0	0.0
M. J. SOFFE COMPANY - Bladenboro													
CO2	Indirect								0.0	-17.0	-6.0	-43.0	-108.0
M. J. SOFFE COMPANY Fayettville													
CO2	Direct								0.0	861.0	1,074.0	1,363.0	656.0
CO2	Indirect								0.0	-818.0	14.0	-371.0	-654.0
M. J. SOFFE COMPANY Rowland													
CO2	Indirect									0.0	37.0	-80.0	-62.8
Mallinckrodt, Inc.													
CO2	Direct										9,223.0	9,546.0	16,728.0
CO2	Indirect										1,257.0	1,293.0	4,169.0
Maple Springs Laundry													
CO2	Direct									81.8	12.0	628.0	469.0
CO2	Indirect									-21.0	-71.0	-42.0	-26.0
McNeil Generating Station													
CO2	Direct		-43,522.2	-14,080.4	-8,626.4	-7,149.5	-1,258.3	-1,859.7	-9,956.4	-7,981.2	-66,835.9	-8,345.2	-42.8
CO2	Indirect		57,966.4	42,870.8	52,353.6	83,663.3	90,229.5	101,976.6	94,559.5	135,491.7	141,608.8	132,230.3	98,257.2
Middlesex Generating Company, LLC													
CH4	Direct							10,161.4	348,136.7	513,389.5	513,973.7	545,939.3	565,427.4
CO2	Direct							-1,214.7	-41,626.2	-61,383.8	-61,454.5	-65,274.7	-67,605.2
Miller Brewing Company, Eden, NC, Facility													
CO2	Direct							6,169.0	2,445.0	6,197.0	2,480.0	13,919.0	17,397.0
CO2	Indirect							-14,031.0	-3,322.0	925.0	-10,473.0	-4,400.0	-12,696.0
Motorola Austin													
CO2	Direct						15,496.5	1,305.4	1,099.5	3,224.1	-1,618.4	1,470.5	5,176.4
CO2	Indirect						40,568.4	58,699.4	-128,558.1	133,099.4	3,028.2	64,229.6	9,748.6
Municipal Electric Auth of Georgia (MEAG Power)													
CO2	Direct	863,000.0	1,144,000.0	1,353,000.0	1,590,000.0	2,234,000.0	2,125,000.0	2,415,000.0	2,543,000.0	2,460,000.0	2,782,000.0	2,870,000.0	2,482,000.0
National Grid USA													
02	Indirect	0.0	0.0	0.0	0.0								
22	Indirect	1,153.1	1,396.2	1,525.4	1,489.2	1,815.0	1,065.2	2,663.0	2,869.9	1,561.6	1,029.0	910.1	
23	Indirect	237.5	291.5	313.1	313.1	377.8	226.7	550.6	604.5	323.9	215.9	161.9	
28	Direct										10,432.4	35,828.8	
CH4	Direct	536.2	1,014.1	1,617.1	2,508.0	2,775.1	3,000.4	8,296.0	8,333.6	8,665.3	9,066.0	9,913.1	
CH4	Indirect	173.2	262.9	461.1	461.1	592.6	557.1	797.1	870.1	690.6	713.6	840.9	
CO2	Direct	900,108.8	3,601,251.5	6,165,953.6	7,107,067.2	7,326,333.7	7,701,091.8	6,982,510.7	5,487,742.3	9,745,523.4	14,600,867.2	15,015,813.5	
CO2	Indirect	274,967.7	-2,017,760.4	-3,770,350.7	-3,464,538.8	-3,512,166.0	-3,583,017.1	-3,302,878.4	-743,891.5	-3,079,257.4	-2,632,378.1	-3,556,527.3	
N2O	Direct										5,356.1		
N2O	Indirect											4,409.8	
National Spinning Co., Inc. Washington													
CO2	Direct										0.0	2,077.0	735.0
CO2	Indirect										0.0	7,041.0	43.0
National Spinning Inc. Beulaville													
CO2	Indirect										0.0	1,138.0	414.0
National Spinning Inc. Warsaw													
CO2	Indirect										0.0	-524.0	-844.0
National Spinning Inc. Whiteville													
CO2	Indirect										0.0	155.0	-1,466.0
New Jersey Meadowlands Commission													
CH4	Direct	324,940.8	368,273.8	394,914.5	378,380.9	370,838.1	397,576.9	413,895.6	871,904.6	813,857.4	735,112.0	679,366.3	506,380.8
New York Power Authority													
CO2	Direct	3,717.0	24,219.0	58,238.0	99,951.0	128,945.0	155,276.0	197,529.0	232,789.0	272,337.0	300,493.0	321,009.0	311,600.0
CO2	Indirect	3,927.0	14,222.0	37,146.0	68,333.0	101,178.0	132,371.0	155,992.0	179,737.0	153,096.0	164,569.0	106,366.0	109,492.0
NiSource/NIPSCO													
22	Indirect				243.0	237.9	274.1	263.7	424.0	553.3	636.0	537.8	470.6
23	Indirect				43.2	43.2	54.0	43.2	75.6	97.2	108.0	97.2	86.4
28	Direct	0.0	0.0	0.0	0.0	0.0	24,570.2	24,570.2	24,570.2	37,862.3	49,744.6	50,348.8	63,842.2
CH4	Direct	4,431.8	5,909.0	494,005.7	504,041.9	584,727.8	841,099.1	620,407.4	669,273.8	695,000.6	1,449,467.2	2,224,830.4	4,787,110.2
CH4	Indirect	0.0	6.3	18.8	135.6	154.4	173.2	227.4	262.9	290.0	331.8	361.0	415.2
CO2	Sequestration			4.5	59.0	1,265.5	1,349.0	1,278.2	1,098.6	1,042.4	350.2	398.3	354.7
CO2	Direct	2,602.7	4,370.8	6,144.4	10,890.8	41,743.2	264,581.4	937,948.3	1,373,966.8	1,833,479.4	1,638,163.5	1,287,339.7	1,785,925.7
CO2	Indirect	19,413.8	-7.3	20,867.1	29,138.8	98,882.2	115,519.1	120,987.8	113,291.8	110,431.4	97,650.6	119,351.0	128,870.9
Northrop Grumman Poly-Scientific													
CO2	Direct										0.0	7.0	9.0
CO2	Indirect										0.0	919.0	475.0
PacifiCorp													
CH4	Indirect					1,508.6	1,508.6	3,716.1	3,716.1	3,716.1	3,716.1	3,716.1	3,716.1
CO2	Sequestration			360.9	2,393.4	169,911.0	169,923.4	904,637.4	903,748.7	903,070.4	759,307.7	767,832.5	81,254.5
CO2	Direct			98,682.7	247,725.9	452,701.5	514,084.4	388,807.6	584,208.9	765,645.8	887,935.2	989,378.5	1,018,944.5
CO2	Indirect	36,603.1	108,214.4	107,523.2	120,175.0	122,271.5	234,399.5	181,510.6	304,507.7	709,595.6	505,457.3	309,939.9	422,826.1
N2O	Indirect					4,672.4	4,672.4	4,672.4	4,672.4	4,672.4	4,672.4	4,672.4	4,672.4
Pak-Lite, Inc. - Mebane Plant													
CO2	Direct										0.0	24.0	35.0
CO2	Indirect										0.0	-80.0	-69.0
Palmer Capital Corporation													
CH4	Direct	489,420.5	885,021.1	1,080,948.5	1,068,935.3	1,280,506.9	2,069,062.5	4,534,868.8	5,245,307.6	5,628,924.2	5,988,576.8	5,562,563.3	5,206,941.2
CO2	Indirect	-618.2	-43,422.6	-60,969.9	-42,679.1	-32,205.7	-48,600.4	-68,432.3	-89,323.0	-153,698.8	-162,019.7	-136,702.4	-127,687.1

Table B3. Entity-Level Emission Reductions Reported, Data Year 2002 (Continued)
(Metric Tons Carbon Dioxide Equivalent)

Reporter and Gas	Reduction Type	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Peabody Holding Company, Inc.													
CH4	Direct	3,749.0	77,970.0	963,240.0	973,199.0	644,598.0	744,303.0	1,398,745.0	845,089.0	612,766.0	1,015,772.0	570,400.0	572,332.0
CO2	Direct				90,246.7	118,282.4	96,855.6	58,103.4	81,577.7	86,745.0	116,187.7	25,335.9	-7,788.2
CO2	Indirect				201,302.5	220,940.3	285,586.3	250,231.5	336,562.8	285,395.8	492,644.0	531,134.0	533,744.9
PEI Power Corp													
CO2	Direct								131.0	299.7	326.0	628.2	695.2
CO2	Indirect								7,449.5	16,321.4	18,391.4	36,168.7	40,715.7
Penn Compression Moulding, Inc.													
CO2	Direct										0.0	-17.0	-15.0
CO2	Indirect										0.0	-52.0	-61.0
PG&E Corporation													
28	Direct									10,032.2	40,863.7	83,384.0	189,757.6
CH4	Direct			406,663.7	791,523.3	1,187,274.5	1,583,046.5	1,978,797.8	2,374,569.8	2,822,588.5	3,226,581.5	3,629,093.0	3,958,346.7
CH4	Indirect	339,540.2	431,284.7	576,611.2	584,936.4	557,498.6	727,341.8	893,408.3	792,837.8	893,241.4	848,297.6	951,038.1	736,877.2
CO2	Sequestration	0.0	0.0	8,681.8	24,930.3	57,790.3	44,248.8	42,347.9	40,779.6	36,633.3	21,459.7	3,972.3	16,894.7
CO2	Direct	280,331.9	1,340,970.6	1,694,474.2	2,619,821.8	3,562,010.3	4,711,774.5	5,267,593.9	5,386,114.0	4,281,725.4	2,646,268.9	2,463,744.3	2,680,712.0
CO2	Indirect	-47,534.7	-297,576.6	-239,372.5	-329,472.3	-343,217.9	-213,463.3	-151,169.6	-332,203.8	-544,566.7	-539,174.4	-537,183.1	844,300.0
Portland General Electric Co.													
CO2	Sequestration						0.5	135.0	472.7	900.1	1,421.8	2,145.9	2,658.3
CO2	Direct			2.8	8.4	8.4	11.6	23.2	39.4	52.0	59.0	59.0	63.9
CO2	Indirect	102,338.6	174,298.3	282,931.9	474,232.7	676,465.0	756,124.7	795,822.0	849,565.2	931,750.9	1,017,483.5	1,150,800.3	1,303,618.7
Public Service Enterprise Group													
22	Indirect						4,643.6	5,284.8	1,171.2	3,800.7	1,680.6	1,967.6	8,147.0
23	Indirect						820.5	933.8	205.1	674.7	296.9	350.9	1,441.2
28	Direct	-9,062.8	1,208.4	-1,409.8	-161,116.0	-277,723.7	-185,484.8	-60,821.3	87,204.0	90,426.4	19,333.9	72,703.6	29,806.5
CH4	Direct	11,455.0	21,282.6	30,004.2	40,436.9	45,486.2	50,932.1	54,979.9	58,756.5	63,430.4	68,709.3	75,824.3	81,374.5
CH4	Indirect	3,088.1	6,092.7	9,055.5	11,914.1	19,050.0	29,787.2	36,622.7	43,020.0	50,487.6	57,026.8	64,146.0	72,861.5
CO2	Sequestration					1,203.8	1,203.8	2,176.3	2,642.6	3,151.6	794.7	902.6	696.6
CO2	Direct	843,041.4	889,130.0	2,121,933.4	1,970,643.1	1,625,847.5	459,324.0	-87,222.2	2,889,888.0	2,641,574.3	2,992,644.8	3,584,594.7	4,720,946.2
CO2	Indirect	65,045.2	99,426.5	148,651.3	209,565.1	346,834.0	791,702.9	966,451.2	1,168,182.8	1,295,772.0	1,962,590.9	1,701,457.8	2,074,719.8
Republic Metals Corporation													
CO2	Direct							68.0	82.0	6.0	119.0	-12.0	49.0
CO2	Indirect							-73.0	-38.0	-35.0	-70.0	-79.0	-59.0
Rochester Gas and Electric Corporation													
CO2	Direct					-390,089.5	71,667.6	68,038.9	-907.2	353,802.1	498,951.6	462,664.2	453,592.4
CO2	Indirect					23,586.8	35,380.2	69,853.2	78,017.9	59,874.2	67,131.7	72,574.8	66,224.5
N2O	Direct					1,074.1	1,074.1	1,074.1	1,342.6	2,685.3	3,222.3	3,490.8	3,222.3
Rolls-Royce Corporation													
CH4	Indirect									40,135.0	259,808.0	265,236.0	250,171.0
CO2	Direct								53,365.0	23,380.0	29,009.0	46,166.0	54,474.0
CO2	Indirect								133,087.0	110,060.0	122,749.0	120,989.0	131,383.0
Sacramento Municipal Utility District													
CO2	Sequestration						1,158.5	1,439.7	1,763.6	1,945.0	2,277.9	2,650.8	3,026.4
CO2	Direct						-156,791.5	-517,708.6	-1,032,340.9	-1,124,406.6	-1,314,465.4	-1,432,553.7	-1,260,541.4
CO2	Indirect						786,869.4	1,067,915.3	2,179,510.6	2,067,388.9	1,786,303.1	1,278,919.2	1,194,221.7
Santee Cooper													
CH4	Indirect											19,926.3	67,791.2
CO2	Sequestration	155.0	397.2	874.8	921.4	940.4	979.6	1,246.7	2,173.4	2,195.4	2,268.9	3,621.0	7,664.8
CO2	Direct	12,789.5	17,696.5	185,505.7	169,824.1	217,229.9	453,129.7	426,433.1	880,178.8	1,093,337.3	1,193,597.6	1,151,566.8	1,231,312.9
CO2	Indirect	20,217.5	27,473.2	22,376.6	16,759.3	78,350.8	106,423.7	148,845.4	173,050.0	139,905.1	106,432.7	134,628.9	128,735.9
Seattle City Light													
CO2	Sequestration					2.1	9.1	15.1	21.4	29.7	41.3	51.8	62.0
CO2	Indirect	7,238.4	30,759.9	57,395.8	82,948.4	123,562.2	169,861.3	186,988.0	209,811.9	238,504.3	246,490.3	279,000.1	318,161.5
Siemens Power Transmission & Distribution, Inc.													
CO2	Direct						0.0				25.0	420.0	292.0
CO2	Indirect						0.0				337.0	2,271.0	990.0
Sikorsky Aircraft Corporation													
CO2	Direct										169.6	254.4	254.4
CO2	Indirect		15.5	422.3	2,003.9	2,461.7	3,094.0	3,854.1	4,401.0	4,608.3	5,078.3	4,526.4	4,833.0
Southern Company[p]													
28	Direct									384,060.0	377,400.0	421,800.0	532,800.0
CH4	Indirect		1,460.5	4,577.0	7,258.8	9,117.2	10,973.3	12,806.4	14,404.9	15,232.9	16,104.6	16,159.8	15,743.5
CO2	Sequestration	1,993.0	3,398.0	4,477.0	5,630.0	20,760.8	42,431.8	82,418.4	107,612.2	157,891.7	163,925.5	176,515.2	194,226.5
CO2	Direct	770,340.0	2,255,635.0	2,441,647.0	2,863,002.0	3,376,687.0	3,483,795.0	3,741,520.0	2,666,235.0	4,542,236.0	5,979,127.0	11,615,167.0	15,344,442.0
CO2	Indirect				135,973.0	271,680.0	347,601.0	693,055.0	884,657.0	1,532,187.0	1,997,583.0	2,415,819.0	2,993,955.0
Sunoco, Inc.													
CO2	Direct	120,905.0	-59,001.0	304,939.0	585,795.0	590,490.0	600,419.0	802,027.0	1,145,830.0	1,355,025.0	1,375,714.0	1,403,786.0	1,200,224.0
CO2	Indirect	-59,621.0	-36,350.0	-27,600.0	-66,359.0	-87,535.0	-251,830.0	-279,576.0	-135,669.0	-147,236.0	-198,134.0	-308,625.0	-322,435.0
Tampa Electric Company													
CO2	Sequestration					1,203.4	1,203.4	1,129.7	949.4	881.0	184.2	209.2	161.6
CO2	Indirect	240,404.0	237,682.4	234,053.7	240,585.4	265,406.0	267,583.2	266,857.5	271,908.7	268,024.1	321,130.7	323,092.1	294,353.3
Tennessee Valley Authority													
01	Direct			0.0	0.0	0.0	0.0	0.0					
02	Direct			0.0	0.0	0.0	0.0	0.0					
03	Direct			0.0	0.0	0.0	0.0	0.0					
07	Direct			0.0	0.0	0.0	0.0	0.0					
08	Direct				0.0	0.0	0.0	0.0					
18	Direct				-29.5	-43.0	-42.5	-42.5					
99	Direct			0.0	0.0	0.0	0.0	0.0					
CH4	Direct	440.3	1,316.6	1,047.4	1,151.8	1,535.7	3,442.8	3,714.0	3,964.4	4,006.1	4,235.6	4,173.1	4,068.7
CH4	Indirect		84,149.6	84,775.5	94,394.4	127,945.7	147,767.7	148,894.4	132,828.2	123,564.0	143,448.6	159,827.8	153,130.1
CO2	Sequestration	1,064.1	1,710.0	2,700.7	3,087.1	30,548.5	31,602.7	31,749.7	28,702.4	28,560.9	13,569.7	16,339.3	14,192.9
CO2	Direct	2,859,607.1	8,558,862.2	6,970,759.0	7,763,632.2	10,283,520.3	22,310,595.4	23,901,552.6	25,642,872.9	25,754,776.9	27,226,844.8	27,028,349.1	26,304,611.6
CO2	Indirect	0.0	-10,048.0	-10,123.3	-9,715.0	-8,332.5	9,453.8	73,034.7	243,864.9	122,577.0	76,187.2	71,136.9	115,811.2
Texas Genco, LP													
CO2	Direct	2,440,327.1	2,763,284.9	396,439.8	1,400,693.3	2,557,354.0	3,193,290.5	2,308,785.3	3,609,688.3	3,523,505.8	4,773,606.4	4,818,965.7	1,351,791.5
CO2	Indirect	139,706.5	160,571.7	194,137.5	225,889.0	563,361.8	663,152.1	641,379.7	708,511.3	688,553.3	654,987.4	647,729.9	675,852.7

Table B3. Entity-Level Emission Reductions Reported, Data Year 2002 (Continued)
(Metric Tons Carbon Dioxide Equivalent)

Reporter and Gas		Reduction Type	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
The Dow Chemical Company														
	01	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	02	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	03	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	04	Direct					0.0	0.0	0.0	0.0			0.0	
	05	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	07	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	08	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	09	Direct											0.0	0.0
	10	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	11	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	12	Direct					0.0			0.0				
	13	Direct					0.0				0.0			
	15	Direct							-5,715.4	-6,842.1	-8,921.4	-7,702.1	-9,422.2	-21,680.3
	17	Direct							-143.4		-1,019.4	-6,818.2	-1,386.5	-501.2
	18	Direct					-5,898.6	-9,551.6	-12,403.3	-39,502.7	-182,641.6	-322,527.8	-723,022.6	-1,237,881.6
	19	Direct					7,483.5		-1.2	-4.8	-6.0	22,705.7	22,717.3	22,472.2
	22	Direct												-6,644.8
	24	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	25	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	26	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	27	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	28	Direct					74,517.4	-81,566.4	129,640.2	301,634.4				
	29	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	46	Direct									-1,289.3		-1,289.3	-321.8
	51	Direct											-690.7	-2,340.8
	99	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CH4	Direct					-8,346.1	-14,605.7	20,865.3	-8,346.1	39,644.0	-121,018.5	-66,768.8	-54,249.7
	CO	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CO2	Direct					-1,154,846.3	482,078.0	-2,575,134.8	-2,544,925.5	-2,774,443.3	175,086.7	892,397.7	2,046,790.3
	N2O	Direct					-719.8	-442.3	-735.5	-3,597.9	-5,355.6	-674,529.4	-26,509.8	-23,532.2
	NOx	Direct					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Toyota Motor North America, Inc.[p]														
	CO2	Direct											28,251.0	13,972.0
TS Designs, Inc.														
	CO2	Direct									-2.5	42.5	24.7	14.7
Tucson Electric Power Company														
	01	Direct				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	02	Direct						0.0	0.0	0.0	0.0	0.0	0.0	0.0
	07	Direct			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	28	Direct	34,429.1	29,998.3	47,822.1	35,093.7	35,879.1	38,608.1	76,672.4	76,199.1	43,189.9	41,931.1	41,226.3	77,900.9
	CO2	Sequestration			1.2	1.8	1,213.6	1,225.1	1,163.3	1,810.9	1,700.2	425.5	498.1	420.1
	CO2	Direct							8.3	10.8	8,693.6	25,876.9	28,496.9	20,848.8
	CO2	Indirect	6,754.0	36,682.4	67,156.8	93,247.9	108,199.8	101,059.3	128,795.3	109,549.2	117,394.7	122,357.1	124,569.7	117,006.6
U.S. Department of Energy - Energy Management														
	CO2	Direct									764,575.3	820,367.2	770,744.2	842,865.4
	CO2	Indirect									114,940.3	69,490.4	40,641.9	-2,086.5
Valdese Manufacturing Company														
	CO2	Direct											-921.6	-807.9
	CO2	Indirect											-998.6	-1,477.8
Waste Management Inc.														
	CH4	Direct					10,006,518.0	12,211,321.0	14,240,657.0	16,498,774.0	17,467,097.0	21,631,638.0	26,079,976.0	30,095,477.0
	CO2	Indirect					410,462.0	460,828.0	492,957.0	509,784.0	525,248.0	548,312.0	597,735.0	619,406.0
Waverly Light & Power Company														
	CO2	Sequestration	18.1	36.3	54.4	72.6	84.4	95.3	106.1	116.1	124.3	132.4	137.0	144.2
	CO2	Direct	3,009.1	5,805.1	9,168.9	11,063.1	11,718.1	12,699.7	13,417.3	13,554.2	15,296.0	15,641.7	16,786.5	18,163.7
	CO2	Indirect	1,129.4	3,207.8	4,047.0	7,099.6	6,504.5	5,878.6	5,393.2	4,977.7	5,509.3	6,353.9	7,560.5	7,969.6
Wyeth-Lederle Vaccines														
	CO2	Direct										3,095.0	-8.0	-891.0
	CO2	Indirect										9,219.0	1,828.0	-157.0

Notes: [p] Indicates that the report has Preliminary status, meaning the initial submission has been reviewed by EIA but a final version has not been accepted.
This table excludes data reported as confidential; a negative reduction represents an increase in emissions.
Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ

Table B4. Total Emission Reductions and Sequestration Reported at Project and Entity Levels, Data Year 2002

(Metric Tons Carbon Dioxide Equivalent)

Reporter	Sector	Reduction Type	Project Level	Entity Level
A&N Electric Cooperative	Electric Provider	Indirect	6,193.1	
Abe Krasne Home Furnishings, Inc.	Services and Retail			
Advanced Micro Devices	Industrial	Unspecified (EZ)	138,623.0	
AES Hawaii, Inc.	Electric Provider	Sequestration	1,540,000.0	1,530,000.0
AES Shady Point LLC	Electric Provider	Sequestration	4,150,000.0	4,150,000.0
AES Thames	Electric Provider	Sequestration	410,000.0	410,000.0
AES Warrior Run, Inc.	Electric Provider	Direct	41,841.2	
		Indirect	21,134.7	21,134.7
Ajinomoto Aminoscience LLC	Industrial	Direct		677,114.0
		Indirect		5,946.0
Alabama Biomass Partners, Ltd	Alternative Energy	Unspecified (EZ)	69,287.1	
Alcan Primary Metals Group, Sebree Works	Industrial	Direct	376,103.1	376,103.1
Allegheny Energy, Inc.	Electric Provider	Direct	1,458,302.9	1,458,303.2
		Indirect	201,959.3	201,959.3
		Sequestration	1,620.8	1,620.8
Allergan, Inc.	Industrial	Direct	875.3	875.3
		Indirect	10,438.1	12,389.2
Alliant Energy	Electric Provider	Direct	2,105,609.0	2,105,609.0
		Indirect	794,351.5	794,351.5
		Sequestration	30,854.2	30,854.2
Ameren Corporation (formerly UE and CIPS)	Electric Provider	Direct	621,612.1	
		Indirect	338,340.0	
		Sequestration	138.6	
American Electric Power, Inc.	Electric Provider	Direct	7,093,860.7	
		Indirect	647,846.1	
		Sequestration	291,860.1	
Anoka Municipal Utility	Electric Provider	Unspecified (EZ)	376.1	
Arizona Electric Power Cooperative, Inc.	Electric Provider	Unspecified (EZ)	82,345.0	
Arizona Public Service Company	Electric Provider	Direct		-161,810.0
		Indirect		350,126.2
Asheville Landfill Gas, LLC	Alternative Energy	Direct	69,967.5	
		Indirect	95.3	
AT&T	Industrial	Direct	5,533.8	
		Indirect	164,036.3	
Azdel, Inc	Industrial	Direct		0.6
		Indirect		1,624.0
BARC Electric Cooperative	Electric Provider	Indirect	1,767.8	
Baxter Healthcare Inc.	Industrial	Direct		1,316.0
		Indirect		4,345.0
Berkshire Power LLC	Electric Provider	Direct	-533,682.3	-533,682.3
		Indirect	930,870.5	930,870.5
Bethlehem Steel Corporation[(p)]	Industrial	Direct		4,851,624.3
		Indirect		342,008.7
Biomass Partners, LP	Alternative Energy	Unspecified (EZ)	96,909.6	
Black Beauty Coal Company, c/o Peabody Energy	Alternative Energy	Direct		-1,207,325.5
		Indirect		-142,030.7
Blue Source, LLC	Industrial	Indirect	5,980,817.0	
Bountiful City Light & Power	Electric Provider	Direct	6,438.8	6,439.2
		Sequestration	2.9	2.9
Branson Ultrasonics Corporation	Industrial	Indirect	0.2	
Burlington County Board of Chosen Freeholders[(p)]	Services and Retail	Direct	199,607.9	
		Indirect	50,800.9	
Cargill, Inc. - Oil Seeds Division	Industrial	Direct		2,101.8
		Indirect		343.1
Carolina Power & Light Company	Electric Provider	Direct	8,435,784.4	
Catawba Landfill Gas, LLC	Alternative Energy	Direct	85,255.4	
		Indirect	10,439.0	
CDX Gas, LLC	Alternative Energy	Direct	2,202,911.4	
ChevronTexaco Corporation	Industrial	Unspecified (EZ)	2,585.5	
Choptank Electric Cooperative	Electric Provider	Indirect	16,537.9	
Cinergy Corp.	Electric Provider	Direct	1,475,789.1	1,475,789.1
		Indirect	787,610.5	787,611.3
		Sequestration	35,498.0	35,498.0

Table B4. Total Emission Reductions and Sequestration Reported at Project and Entity Levels, Data Year 2002 (Continued)

(Metric Tons Carbon Dioxide Equivalent)

Reporter	Sector	Reduction Type	Project Level	Entity Level
City of Austin Electric Utility (Austin Energy)	Electric Provider	Unspecified (EZ)	1,312,769.9	
City of Edmond, Oklahoma, Electric Department	Electric Provider	Unspecified (EZ)	2,975.4	
City of Klamath Falls- Cogen	Electric Provider	Direct	-2,104,283.0	
		Indirect	2,156,081.0	
		Sequestration	1,029.8	
City of Palo Alto	Electric Provider	Unspecified (EZ)	17,375.6	
City Public Service	Electric Provider	Direct	3,972,432.4	
		Indirect	150,534.6	
		Sequestration	3.2	
City Utilities of Springfield	Electric Provider	Direct	40,079.6	
		Sequestration	135.7	
CLE Resources	Industrial	Indirect	6,659.2	
Cleco Corporation	Electric Provider	Sequestration	2,596.5	
CMV Joint Venture	Alternative Energy	Direct	650,349.0	
COMMSCOPE CATAWBA PLANT	Industrial	Direct		-84.1
		Indirect		-1,669.0
COMMSCOPE CLAREMONT PLANT	Industrial	Direct		-226.8
		Indirect		-3,776.0
COMMSCOPE CONOVER REEL RECYCLING	Industrial	Direct		-29.0
		Indirect		27.0
COMMSCOPE Headquarters- Hickory	Industrial			
COMMSCOPE NEWTON PLANT	Industrial	Direct		-338.0
		Indirect		-3,679.0
COMMSCOPE SCOTTSBORO PLANT	Industrial	Direct		6.0
		Indirect		228.9
COMMSCOPE SPARKS PLANT	Industrial	Direct		261.0
		Indirect		723.0
COMMSCOPE STATESVILLE PLANT	Industrial	Direct		393.0
		Indirect		13,279.0
Community Electric Cooperative	Electric Provider	Indirect	1,074.8	
Conectiv Atlantic Generation (CAG)	Electric Provider	Direct	1,127.9	
		Indirect	17,390.0	
		Sequestration	15.2	
Conectiv Delmarva Generation	Electric Provider	Direct	875,876.2	
		Indirect	23,483.0	
		Sequestration	317.6	
Consol Coal Group	Industrial	Direct		18,853,423.0
Consolidated Edison Company of New York, Inc.	Electric Provider	Direct	1,523,489.1	-643,648.5
		Indirect	110.4	117,513.1
Constellation Energy Group, Inc	Electric Provider	Direct	5,106,082.2	5,106,082.2
		Indirect	265,094.6	265,048.0
		Sequestration	220.8	220.8
County Sanitation Districts of Los Angeles County	Alternative Energy	Direct	4,141,591.0	
		Indirect	218,562.0	
DaimlerChrysler Corporation	Industrial	Direct	253,716.0	253,716.0
		Indirect	166,968.0	166,968.0
		Sequestration		5.6
Dakota Gasification Company	Industrial			
Danaher Controls	Industrial	Direct		-28.0
		Indirect		39.0
DeBourgh Manufacturing Company	Industrial	Unspecified (EZ)	0.0	
Delaware Electric Cooperative	Electric Provider	Indirect	35,730.5	
Delaware Solid Waste Authority	Alternative Energy	Direct	388,629.8	
Dominion Generation	Electric Provider	Direct	9,276,652.2	
Doxey Furniture Corporation	Industrial	Direct		16.8
		Indirect		38.0
Drummond Company, Inc.	Industrial	Direct	21,345.2	
DTE Energy/ Detroit Edison	Electric Provider	Direct	2,909,742.9	1,320,515.4
		Indirect	6,497,462.1	-7,555,877.8
		Sequestration	117,465.9	117,465.9
Duke Energy Corporation	Electric Provider	Direct	13,326,026.0	13,326,026.0
		Indirect	83,323.0	83,323.0
		Sequestration	696.7	696.7
Dynegy Midwest Generation Inc.	Electric Provider	Direct	283,605.9	284,768.0
		Indirect	43,552.1	43,546.7
		Sequestration	151,347.1	151,346.7

Table B4. Total Emission Reductions and Sequestration Reported at Project and Entity Levels, Data Year 2002 (Continued)

(Metric Tons Carbon Dioxide Equivalent)

Reporter	Sector	Reduction Type	Project Level	Entity Level
El Paso Production Company	Alternative Energy	Direct	1,263,286.6	
Energy Management Partners, LP	Alternative Energy	Unspecified (EZ)	4,075,237.8	
Entergy Services, Inc.	Electric Provider	Direct	7,996,169.5	7,996,267.5
		Indirect	193,372.8	193,373.7
		Sequestration	64,028.2	64,028.0
Environmental Synergy, Inc.	AG	Sequestration	2,994.6	
Exelon Corporation	Electric Provider	Direct	113,528.4	
		Indirect	7,510,315.6	
		Sequestration	7,680.2	
FirstEnergy Corporation	Electric Provider	Direct	10,705,899.6	10,705,899.6
		Indirect	994,262.5	994,262.3
		Sequestration	4,764.7	4,764.7
Fisher Scientific Company L.L.C	Industrial			
Florida Power Corporation	Electric Provider	Direct		5,417,402.8
Ford Motor Company	Industrial	Direct	207,465.0	207,466.0
		Indirect	158,668.0	158,668.0
FPL Group	Electric Provider	Direct	19,390,771.6	19,390,771.6
		Indirect	3,803,134.7	3,803,134.7
		Sequestration	404.0	404.0
Gas Recovery Systems	Alternative Energy	Indirect	426,600.1	426,599.0
General Motors Corporation	Industrial	Direct	906,162.0	2,106,000.0
		Indirect	781,976.0	454,000.0
		Sequestration		5,051.6
GeoMet Inc.	Alternative Energy	Direct	433,559.0	
Golden Valley Electric Association, Inc	Electric Provider	Unspecified (EZ)	741.8	
		Direct	-73,822.1	
Granger Electric Company	Alternative Energy	Indirect	700,106.7	
Granger Energy, LLC	Alternative Energy	Indirect	453,571.3	
Greater New Bedford Regional Refuse Mgt District	Alternative Energy	Direct	115,659.7	115,659.7
Green Mountain Energy Company	Electric Provider	Indirect	537,391.6	
Greene Energy, LLC	Alternative Energy	Unspecified (EZ)	300,695.1	
Hanes Dye and Finishing, Butner Plant	Industrial	Direct		1,361.0
		Indirect		-437.0
Hanes Dye and Finishing, Winston-Salem Plant	Industrial			
Hawaiian Electric Company, Inc.	Electric Provider	Direct	40,888.6	1,372,570.6
		Indirect		-3,024,554.1
		Sequestration	161.7	161.6
Highland Industries, Inc.	Industrial	Direct		1,687.0
		Indirect		748.0
IBM	Industrial	Direct		17,896.0
		Indirect		86,794.9
Integrated Waste Services Association	Alternative Energy	Direct	-9,476,461.1	-9,476,461.1
		Indirect	23,314,960.5	23,314,960.5
International Truck and Engine Corporation	Industrial	Direct		14,671.0
		Indirect		-38,864.7
Iredell Landfill Gas, LLC	Alternative Energy	Direct	49,416.2	
J. Bradford Hollomon	Other	Unspecified (EZ)	0.3	
J.M. Gilmer and Company, Inc.	AG	Sequestration	4,403.5	
JEA	Electric Provider	Unspecified (EZ)	538,188.1	
Jim Walter Resources, Inc.	Alternative Energy	Direct	5,493,862.2	5,493,862.2
Johnson & Johnson	Industrial	Direct	74,896.9	74,895.4
		Indirect	198,553.2	198,778.7
Kansas City Power & Light Company	Electric Provider	Direct	1,022,871.7	
		Indirect	125,326.7	
		Sequestration	1,070.0	1,070.0
KeySpan Energy Corporation	Electric Provider	Direct		9,924,601.7
		Indirect		30,118.5
Klickitat County Public Utility District No. 1	Electric Provider	Direct	265,075.0	
Landfill Energy Systems	Alternative Energy	Direct	812,659.8	
		Indirect	879,449.4	
Lehigh Cement Co. (fmrly Lehigh Portland Cement Co	Industrial	Direct	790,261.0	287,227.0
		Indirect	36,397.0	-4,533.0
Lehigh Cement Co. (formerly Calaveras Cement Co.)	Industrial	Direct	181,896.0	169,748.0
		Indirect	2,662.0	-1,465.0
LFG Energy, Inc.	Alternative Energy	Direct	84,292.0	
		Indirect	19,945.4	

Table B4. Total Emission Reductions and Sequestration Reported at Project and Entity Levels, Data Year 2002 (Continued)

(Metric Tons Carbon Dioxide Equivalent)

Reporter	Sector	Reduction Type	Project Level	Entity Level
Los Angeles Department of Water and Power	Electric Provider	Direct	613,518.1	1,252,007.6
		Indirect	8,166.5	173,962.7
		Sequestration	4,013.0	4,013.0
Lower Colorado River Authority	Electric Provider	Direct	511,380.1	511,380.1
		Indirect	141,158.0	141,158.0
Lucent Technologies Inc.	Industrial	Direct	7,236.7	7,236.9
		Indirect	14,789.8	14,789.7
Lynchburg Gas Producers, LLC	Alternative Energy	Direct	47,894.8	
M. J. SOFFE COMPANY - Maxton	Industrial			
M. J. SOFFE COMPANY - Bladenboro	Industrial	Indirect		-108.0
M. J. SOFFE COMPANY Fayettville	Industrial	Direct		656.0
		Indirect		-654.0
M. J. SOFFE COMPANY Rowland	Industrial	Indirect		-62.8
Madison County Depart. of Solid Waste & Sanitation	Alternative Energy	Direct	31,297.9	
		Indirect	21,932.9	
Mallinckrodt, Inc.	Industrial	Direct		16,728.0
		Indirect		4,169.0
Maple Springs Laundry	Services and Retail	Direct		469.0
		Indirect		-26.0
McNeil Generating Station	Electric Provider	Direct		-42.8
		Indirect		98,257.2
Mead Johnson Nutls/Bristol-Meyers Squibb	Industrial	Direct	37,909.2	
		Indirect	1,945.4	
Mecklenburg Electric Cooperative	Electric Provider	Indirect	14,656.0	
Michigan CAT	Industrial	Direct	367,708.3	
Middlesex Generating Company, LLC	Alternative Energy	Direct	497,823.1	497,822.2
Miller Brewing Company, Eden, NC, Facility	Industrial	Direct		17,397.0
		Indirect		-12,696.0
Minnesota Power	Electric Provider	Direct	1,028,303.0	
		Indirect	70,737.7	
		Sequestration	17,801.7	
Minnesota Resource Recovery Association (MRRA)	Other	Unspecified (EZ)	1,365,011.0	
Model City Energy, LLC	Alternative Energy	Direct	196,780.2	
		Indirect	47,029.4	
Montauk Energy Capital	Alternative Energy	Direct	6,223,251.4	
Motorola Austin	Industrial	Direct		5,176.4
		Indirect		9,748.6
Municipal Electric Auth of Georgia (MEAG Power)	Electric Provider	Direct	2,482,000.0	2,482,000.0
Nashville Electric Service	Electric Provider	Unspecified (EZ)	5,766.9	
National By-Products Inc	Industrial	Direct	4,111.4	
National Grid USA	Electric Provider	Direct	27,676.2	
		Indirect	1,459,178.8	
National Spinning Co., Inc. Washington	Industrial	Direct		735.0
		Indirect		43.0
National Spinning Inc. Beulaville	Industrial	Indirect		414.0
National Spinning Inc. Warsaw	Industrial	Indirect		-844.0
National Spinning Inc. Whiteville	Industrial	Indirect		-1,466.0
Natural Power, Inc.	Alternative Energy	Direct	212,425.5	
		Indirect	15,515.6	
NC Muni Landfill Gas Partners, LLC	Alternative Energy	Direct	64,682.3	
		Indirect	183.3	
Nebraska Public Power District	Electric Provider	Unspecified (EZ)	871,515.2	
NEO Corporation	Alternative Energy	Direct	6,616,206.7	
New Jersey Meadowlands Commission	Alternative Energy	Direct	506,378.8	506,380.8
New York Power Authority	Electric Provider	Direct		311,600.0
		Indirect		109,492.0
Newton Landfill Gas, LLC	Alternative Energy	Direct	19,270.4	
		Indirect	0.0	
NiSource/NIPSCO	Electric Provider	Direct	6,636,878.4	6,636,878.2
		Indirect	129,843.1	129,843.1
		Sequestration	354.4	354.7
Nissan North America, Inc.	Industrial			
Noranda Aluminum Inc.	Industrial	Direct	3,180,800.0	
North American Carbon, Inc.	Alternative Energy	Indirect	111,689.0	
North Carolina Biomass Partners	Alternative Energy	Unspecified (EZ)	59,557.6	
North Carolina Electric Membership Corporation	Electric Provider	Unspecified (EZ)	545,429.4	

Table B4. Total Emission Reductions and Sequestration Reported at Project and Entity Levels, Data Year 2002 (Continued)

(Metric Tons Carbon Dioxide Equivalent)

Reporter	Sector	Reduction Type	Project Level	Entity Level
Northern Neck Electric Cooperative	Electric Provider	Indirect	1,124.7	
Northern Virginia Electric Cooperative	Electric Provider	Indirect	61,307.0	
Northrop Grumman Poly-Scientific	Industrial	Direct		9.0
		Indirect		475.0
Northwest Fuel Development, Inc.	Alternative Energy	Direct	3,009.1	
		Indirect	261.3	
Ocean County Landfill Corporation	Alternative Energy	Direct	504,824.0	
		Indirect	-11,901.0	
Old Dominion Electric Cooperative	Electric Provider	Indirect	70.2	
		Sequestration	4.3	
Omaha Public Power District	Electric Provider	Unspecified (EZ)	2,675,985.0	
Orlando Utilities Commission (OUC)	Alternative Energy	Unspecified (EZ)	33,054.2	
PacifiCorp	Electric Provider	Direct	1,018,944.5	1,018,944.5
		Indirect	434,748.3	431,214.6
		Sequestration	81,254.5	81,254.5
Pak-Lite, Inc. - Mebane Plant	Industrial	Direct		35.0
		Indirect		-69.0
Palmer Capital Corporation	Alternative Energy	Direct	5,206,941.2	5,206,941.2
		Indirect	-127,687.1	-127,687.1
Peabody Holding Company, Inc.	Industrial	Direct	289,171.5	564,543.8
		Indirect		533,744.9
PEI Power Corp	Alternative Energy	Direct		695.2
		Indirect		40,715.7
Penn Compression Moulding, Inc.	Industrial	Direct		-15.0
		Indirect		-61.0
PG&E Corporation	Electric Provider	Direct	6,808,764.8	6,828,816.3
		Indirect	1,738,598.4	1,581,177.2
		Sequestration	15,734.8	16,894.7
Pharmacia & Upjohn Caribe Inc.	Industrial	Unspecified (EZ)	5,539.2	
Pitt Landfill Gas, LLC	Alternative Energy	Direct	64,168.8	
		Indirect	967.1	
Platte River Power Authority & 4 Owner Cities	Electric Provider	Direct	11,917.2	
		Indirect	110,163.9	
Portland General Electric Co.	Electric Provider	Direct	63.6	63.9
		Indirect	1,303,781.4	1,303,618.7
		Sequestration	2,658.3	2,658.3
Prince George Electric Cooperative	Electric Provider	Indirect	3,774.1	
Public Service Company of New Mexico	Electric Provider	Direct	1,691,854.3	
Public Service Enterprise Group	Electric Provider	Direct	-393.7	4,832,127.1
		Indirect	3,395,826.0	2,157,169.5
		Sequestration	696.7	696.6
Public Utility District No. 1 of Snohomish County	Electric Provider	Direct	3.1	
		Indirect	181,956.4	
Rappahannock Electric Cooperative	Electric Provider	Indirect	35,367.0	
		Sequestration	4.5	
Republic Metals Corporation	Industrial	Direct		49.0
		Indirect		-59.0
Rochester Gas and Electric Corporation	Electric Provider	Direct		456,814.7
		Indirect		66,224.5
Rolls-Royce Corporation	Industrial	Direct	30,368.0	54,474.0
		Indirect	250,171.0	381,554.0
Sacramento Municipal Utility District	Electric Provider	Direct	28.1	-1,260,541.4
		Indirect	609,033.1	1,194,221.7
		Sequestration	3,026.4	3,026.4
Salt River Project	Electric Provider	Unspecified (EZ)	1,958,593.8	
Santee Cooper	Electric Provider	Direct	1,168,826.0	1,231,312.9
		Indirect	196,527.1	196,527.1
		Sequestration	7,665.3	7,664.8
Seattle City Light	Electric Provider	Indirect	318,161.5	318,161.5
		Sequestration	62.0	62.0
SeaWest WindPower, Inc.	Alternative Energy	Indirect	220,944.9	
Seminole Electric Cooperative, Inc.	Electric Provider	Unspecified (EZ)	290,679.9	
Seneca Energy II, LLC	Alternative Energy	Indirect	438,304.5	
Shenandoah Valley Electric Cooperative	Electric Provider	Indirect	24,401.2	
		Sequestration	0.8	
Shih Family	Other	Unspecified (EZ)	4.3	

Table B4. Total Emission Reductions and Sequestration Reported at Project and Entity Levels, Data Year 2002 (Continued)

(Metric Tons Carbon Dioxide Equivalent)

Reporter	Sector	Reduction Type	Project Level	Entity Level
Shrewsbury Electric Light Plant	Electric Provider	Unspecified (EZ)	2,065.7	
Siemens Power Transmission & Distribution, Inc.	Industrial	Direct		292.0
		Indirect		990.0
Sikorsky Aircraft Corporation	Industrial	Direct	254.4	254.4
		Indirect	4,833.0	4,833.0
South Carolina Electric & Gas Company	Electric Provider	Direct	2,060,843.5	
		Indirect	221,384.8	
		Sequestration	4,222.8	
Southeastern Biomass Partners, LP	Alternative Energy	Unspecified (EZ)	95,040.9	
Southern California Edison Co.	Electric Provider	Direct	7,698,494.4	
		Indirect	113,942.4	
		Sequestration	24,675.2	
Southern Company[(p)]	Electric Provider	Direct	15,790,987.0	15,877,242.0
		Indirect	3,088,713.5	3,009,698.5
		Sequestration	194,226.4	194,226.5
Southside Electric Cooperative	Electric Provider	Indirect	14,083.6	
Springs Industries, Inc.	Industrial	Unspecified (EZ)	72,726.0	
Steuben Rural Electric Co-op	Electric Provider	Unspecified (EZ)	2,271.9	
Sunoco, Inc.	Industrial	Direct		1,200,224.0
		Indirect		-322,435.0
Tacoma Power	Electric Provider	Unspecified (EZ)	5,796.5	
Tampa Electric Company	Electric Provider	Indirect	294,353.3	294,353.3
		Sequestration	161.7	161.6
Tennessee Valley Authority	Electric Provider	Direct	26,309,977.6	26,308,680.3
		Indirect	268,932.8	268,941.3
		Sequestration	17,828.2	14,192.9
Texas Genco, LP	Electric Provider	Direct	141,520.8	1,351,791.5
		Indirect	675,852.7	675,852.7
The Dow Chemical Company	Industrial	Direct		722,110.1
The Empire District Electric Co.	Electric Provider	Sequestration	164.4	
The Estee Lauder Companies	Industrial	Direct	35.7	
		Indirect	1,683.6	
The Forest Bird Society	Other			
Toyota Motor North America, Inc.[(p)]	Industrial	Direct		13,972.0
TS Designs, Inc.	Industrial	Direct		14.7
Tucson Electric Power Company	Electric Provider	Direct	98,749.7	98,749.7
		Indirect	117,006.6	117,006.6
		Sequestration	420.1	420.1
TXU	Electric Provider	Direct	19,785,779.5	
		Indirect	906,985.5	
		Sequestration	27,704.7	
U. S. Steel Mining Company, LLC	Alternative Energy	Direct	2,686,189.6	
		Indirect	14,072.3	
U.S. Department of Energy - Energy Management	Services and Retail	Direct		842,865.4
		Indirect		-2,086.5
US Energy Biogas Corp.	Alternative Energy	Unspecified (EZ)	2,547,584.5	
Utah Municipal Power Agency	Electric Provider	Unspecified (EZ)	30,966.3	
Valdese Manufacturing Company	Industrial	Direct		-807.9
		Indirect		-1,477.8
Vermont Public Power Supply Authority	Electric Provider	Indirect	2,522.6	
Waste Management Inc.	Alternative Energy	Direct	30,086,208.0	30,095,477.0
		Indirect	712,665.0	619,406.0
Waverly Light & Power Company	Electric Provider	Direct	18,162.7	18,163.7
		Indirect	7,970.5	7,969.6
		Sequestration	144.2	144.2
We Energies	Electric Provider	Direct	2,741,720.6	
		Indirect	1,350,429.7	
		Sequestration	74,379.6	
Wisconsin Public Power Inc.	Electric Provider	Unspecified (EZ)	50,468.4	
Wyeth-Lederle Vaccines	Industrial	Direct		-891.0
		Indirect		-157.0
Xcel Energy	Electric Provider	Direct	6,661,495.5	
		Indirect	667,312.2	
Zeeland Board of Public Works	Electric Provider	Unspecified (EZ)	397.7	

Notes: [(p)] Indicates that the report has Preliminary status, meaning the initial submission has been reviewed by EIA but a final version has not been accepted.

This table excludes data reported as confidential; a negative reduction represents an increase in emissions.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ

Table B5. Distribution of Projects Reported by Project Type and Reporting Form, Data Year 2002

Project Type	Form EIA-1605		Form EIA-1605EZ		Total	
	Number of Reporters	Number of Projects	Number of Reporters	Number of Projects	Number of Reporters	Number of Projects
Electricity Generation, Transmission, and Distribution	65	398	25	58	90	456
Cogeneration and Waste Heat Recovery	12	20	1	1	13	21
Energy End Use	62	315	20	97	82	412
Transportation and Off-Road vehicles	32	60	5	9	37	69
Waste Treatment Disposal - Methane	52	403	5	49	57	452
Agriculture -- Methane and Nitrous Oxide	3	3	0	0	3	3
Oil and Natural Gas Systems and Coal Mining -- Methane	20	39	2	2	22	41
Carbon Sequestration	50	412	11	14	61	426
Halogenated Substances	29	42	2	2	31	44
Other Emission Reduction Projects	45	82	10	21	55	103
Total	**193**	**1774**	**35**	**253**	**228**	**2027**

Notes: The total number of reporters is smaller than the sum of the numbers of reporters for each project type because most reporters reported information on projects of more than one type. This table includes reporters classified as confidential but excludes projects reported as confidential.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ

Table B6. Distribution of Emission Reductions by Project Type and Reduction Type, Data Year 2002
(Metric Tons Carbon Dioxide Equivalent)

Project Type	Reduction Type			
	Direct	Indirect	Unspecified (EZ)	Sequestration
Electricity Generation, Transmission, and Distribution	162,012,918	11,905,892	11,589,258	-
Cogeneration and Waste Heat Recovery	1,097,595	3,327,057	222	-
Energy End Use	24,558,785	9,040,863	352,236	-
Transportation and Off-Road vehicles	41,966	161,156	2,423	-
Waste Treatment Disposal - Methane	48,185,254	40,276,392	4,002,702	-
Agriculture -- Methane and Nitrous Oxide	180	22,623	-	-
Oil and Natural Gas Systems and Coal Mining -- Methane	18,335,204	16,541	301,540	-
Carbon Sequestration	1,875	0	10,722	7,296,514
Halogenated Substances	6,600,585	127	141,101	-
Other Emission Reduction Projects	4,068,692	14,700,775	856,362	-
Total (All Project Types)	**264,903,052.27**	**79,451,427.37**	**17,256,564.67**	**7,296,514**

Note: This table excludes information reported as confidential.
Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ

Table B7. Affiliation of Reported Emission Reduction and Carbon Sequestration Projects with Voluntary Programs, by Project Type, Data Year 2002

Voluntary Program	Number of Reporters	Number of Projects by Type					
		Electricity	End Use	Carbon Sequestration	Methane	Halogens and Other Project Types	Total
Climate Challenge	78	323	164	393	25	140	1045
Landfill Methane Outreach Program	35	4			354	2	360
Energy Star Building Program	8		42		1	1	44
United States Initiative on Joint Implementation	29			35		3	38
Other Energy Star Programs	7		34			1	35
Energy Efficiency and Renewable Energy Information and Training Programs	1		27				27
Natural Gas STAR	8					19	19
Green Lights Program	15		17				17
Climate Wise Recognition Program	5	1	12		1		14
Other Federal, state and local programs	7	2	3	1	2	4	12
Coalbed Methane Outreach Program	6					9	9
Sulfur Hexafluoride Emissions Reduction Partnership	9	1				8	9
Waste Wi$e Program	6					9	9
Compressed Air Challenge	3		6	1			7
Energy Star Transformers	7	6	1				7
Motor Challenge Program	4		4				4
Rebuild America	1		1			1	2
Voluntary Aluminum Industrial Partnership	2					2	2
Cool Communities Program	1			1			1
Energy Star Computers Program	1		1				1
Partnerships for Technology Introduction	1		1				1

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ

Table B8. Reporting Enitities by Sector and SIC Code, Data Year 2002

Sector	SIC Code	Reporter	Form Type	Number of Projects Reported (Schedule II)	Entity-Wide Report (Schedule III)	Commitments (Schedule IV)
Agriculture and Forestry						
	08-Forestry					
		Environmental Synergy, Inc.	1605	1		
	65-Real Estate					
		J.M. Gilmer and Company, Inc.	1605	4		
Total Number of Projects Reported by Entities in Sector				**5**		
Total Number of Entities in Sector Reporting on Schedule				**2**		
Alternative Energy						
	12-Coal Mining					
		Black Beauty Coal Company, c/o Peabody Energy	1605	0	Yes	
		Greene Energy, LLC	1605EZ	1		
		Jim Walter Resources, Inc.	1605	4	Yes	
		U. S. Steel Mining Company, LLC	1605	2		
	29-Petroleum Refining and other related Industries					
		CDX Gas, LLC	1605	2		
		CMV Joint Venture	1605	2		
		El Paso Production Company	1605	1		
		GeoMet Inc.	1605	2		
	49-Electric, Gas, and Sanitary Services					
		Alabama Biomass Partners, Ltd	1605EZ	1		
		Asheville Landfill Gas, LLC	1605	1		
		Biomass Partners, LP	1605EZ	1		
		Catawba Landfill Gas, LLC	1605	1		
		County Sanitation Districts of Los Angeles County	1605	2		
		Delaware Solid Waste Authority	1605	4		
		Energy Management Partners, LP	1605EZ	1		
		Gas Recovery Systems	1605	28	Yes	
		Granger Electric Company	1605	7		
		Granger Energy, LLC	1605	2		
		Greater New Bedford Regional Refuse Mgt District	1605	1	Yes	Yes
		Integrated Waste Services Association	1605	1	Yes	
		Iredell Landfill Gas, LLC	1605	1		
		Landfill Energy Systems	1605	14		
		LFG Energy, Inc.	1605	2		
		Lynchburg Gas Producers, LLC	1605	1		
		Madison County Depart. of Solid Waste & Sanitatio	1605	3		
		Middlesex Generating Company, LLC	1605	3	Yes	Yes
		Model City Energy, LLC	1605	1		
		Montauk Energy Capital	1605	27		
		Natural Power, Inc.	1605	1		
		NC Muni Landfill Gas Partners, LLC	1605	1		
		NEO Corporation	1605	34		
		New Jersey Meadowlands Commission	1605	5	Yes	
		Newton Landfill Gas, LLC	1605	1		
		North American Carbon, Inc.	1605	4		Yes
		North Carolina Biomass Partners	1605EZ	1		
		Northwest Fuel Development, Inc.	1605	1		
		Ocean County Landfill Corporation	1605	2		
		Orlando Utilities Commission (OUC)	1605EZ	1		
		Palmer Capital Corporation	1605	10	Yes	
		PEI Power Corp	1605	1	Yes	
		Pitt Landfill Gas, LLC	1605	1		
		SeaWest WindPower, Inc.	1605	10		
		Seneca Energy II, LLC	1605	2		
		Southeastern Biomass Partners, LP	1605EZ	1		
		US Energy Biogas Corp.	1605EZ	42		
		Waste Management Inc.	1605	202	Yes	
Total Number of Projects Reported by Entities in Sector				**436**		
Total Number of Entities in Sector Reporting on Schedule				**45**	**10**	**3**

Table B8. Reporting Enitities by Sector and SIC Code, Data Year 2002 (Continued)

Sector	SIC Code	Reporter	Form Type	Number of Projects Reported (Schedule II)	Entity-Wide Report (Schedule III)	Commitments (Schedule IV)
Electric Providers						
	49-Electric, Gas, and Sanitary Services					
		A&N Electric Cooperative	1605	2		Yes
		AES Hawaii, Inc.	1605	1	Yes	
		AES Shady Point LLC	1605	1	Yes	
		AES Thames	1605	1	Yes	Yes
		AES Warrior Run, Inc.	1605	2	Yes	
		Allegheny Energy, Inc.	1605	51	Yes	Yes
		Alliant Energy	1605	40	Yes	Yes
		Ameren Corporation (formerly UE and CIPS)	1605	28		Yes
		American Electric Power, Inc.	1605	96		
		Anoka Municipal Utility	1605EZ	4		
		Arizona Electric Power Cooperative, Inc.	1605EZ	6		
		Arizona Public Service Company	1605	0	Yes	Yes
		BARC Electric Cooperative	1605	2		
		Berkshire Power LLC	1605	1	Yes	
		Bountiful City Light & Power	1605	7	Yes	Yes
		Carolina Power & Light Company	1605	1		
		Choptank Electric Cooperative	1605	1		
		Cinergy Corp.	1605	44	Yes	
		City of Austin Electric Utility (Austin Energy)	1605EZ	6		
		City of Edmond, Oklahoma, Electric Department	1605EZ	3		
		City of Palo Alto	1605EZ	2		
		City Public Service	1605	9		
		City Utilities of Springfield	1605	6		
		Cleco Corporation	1605	11		Yes
		Community Electric Cooperative	1605	1		
		Conectiv Atlantic Generation (CAG)	1605	8		Yes
		Conectiv Delmarva Generation	1605	21		
		Consolidated Edison Company of New York, Inc.	1605	4	Yes	Yes
		Constellation Energy Group, Inc	1605	27	Yes	Yes
		Delaware Electric Cooperative	1605	1		
		Dominion Generation	1605	2		
		DTE Energy/ Detroit Edison	1605	43	Yes	
		Duke Energy Corporation	1605	25	Yes	Yes
		Dynegy Midwest Generation Inc.	1605	34	Yes	Yes
		Entergy Services, Inc.	1605	41	Yes	Yes
		Exelon Corporation	1605	34		
		FirstEnergy Corporation	1605	55	Yes	Yes
		Florida Power Corporation	1605	0	Yes	
		FPL Group	1605	31	Yes	Yes
		Golden Valley Electric Association, Inc	1605EZ	3		
		Green Mountain Energy Company	1605	3	Yes	
		Hawaiian Electric Company, Inc.	1605	15	Yes	
		JEA	1605EZ	5		
		Kansas City Power & Light Company	1605	18	Yes	Yes
		KeySpan Energy Corporation	1605	0	Yes	
		Klickitat County Public Utility District No. 1	1605	1		
		Los Angeles Department of Water and Power	1605	26	Yes	
		Lower Colorado River Authority	1605	6	Yes	Yes
		McNeil Generating Station	1605	0	Yes	
		Mecklenburg Electric Cooperative	1605	1		
		Minnesota Power	1605	10		Yes
		Municipal Electric Auth of Georgia (MEAG Power)	1605	1	Yes	Yes
		Nashville Electric Service	1605EZ	3		
		National Grid USA	1605	23	Yes	Yes
		Nebraska Public Power District	1605EZ	12		
		New York Power Authority	1605	0	Yes	Yes
		NiSource/NIPSCO	1605	40	Yes	Yes
		North Carolina Electric Membership Corporation	1605EZ	1		
		Northern Neck Electric Cooperative	1605	2		
		Northern Virginia Electric Cooperative	1605	2		
		Old Dominion Electric Cooperative	1605	2		
		Omaha Public Power District	1605EZ	10		

Table B8. Reporting Enitities by Sector and SIC Code, Data Year 2002 (Continued)

Sector	SIC Code	Reporter	Form Type	Number of Projects Reported (Schedule II)	Entity-Wide Report (Schedule III)	Commitments (Schedule IV)
		PacifiCorp	1605	43	Yes	Yes
		PG&E Corporation	1605	30	Yes	
		Platte River Power Authority & 4 Owner Cities	1605	27		
		Portland General Electric Co.	1605	28	Yes	
		Prince George Electric Cooperative	1605	1		
		Public Service Company of New Mexico	1605	4		Yes
		Public Service Enterprise Group	1605	16	Yes	Yes
		Public Utility District No. 1 of Snohomish County	1605	9		
		Rappahannock Electric Cooperative	1605	3		
		Rochester Gas and Electric Corporation	1605	0	Yes	
		Sacramento Municipal Utility District	1605	7	Yes	
		Salt River Project	1605EZ	24		
		Santee Cooper	1605	11	Yes	Yes
		Seattle City Light	1605	20	Yes	
		Seminole Electric Cooperative, Inc.	1605EZ	5		
		Shenandoah Valley Electric Cooperative	1605	3		
		Shrewsbury Electric Light Plant	1605EZ	2		
		South Carolina Electric & Gas Company	1605	18		Yes
		Southern California Edison Co.	1605	19		
		Southern Company[p]	1605	34	Yes	Yes
		Southside Electric Cooperative	1605	1		
		Steuben Rural Electric Co-op	1605EZ	11		
		Tacoma Power	1605EZ	7		
		Tampa Electric Company	1605	10	Yes	Yes
		Tennessee Valley Authority	1605	26	Yes	Yes
		Texas Genco, LP	1605	5	Yes	Yes
		The Empire District Electric Co.	1605	9		
		Tucson Electric Power Company	1605	20	Yes	Yes
		TXU	1605	25		Yes
		Utah Municipal Power Agency	1605EZ	8		
		Vermont Public Power Supply Authority	1605	13		
		Waverly Light & Power Company	1605	9	Yes	Yes
		We Energies	1605	24		
		Wisconsin Public Power Inc.	1605EZ	61		
		Xcel Energy	1605	38		Yes
		Zeeland Board of Public Works	1605EZ	3		
		City of Klamath Falls- Cogen	1605	4		Yes
Total Number of Projects Reported by Entities in Sector				**1414**		
Total Number of Entities in Sector Reporting on Schedule				**93**	**44**	**37**

Table B8. Reporting Enitities by Sector and SIC Code, Data Year 2002 (Continued)

Sector	SIC Code	Reporter	Form Type	Number of Projects Reported (Schedule II)	Entity-Wide Report (Schedule III)	Commitments (Schedule IV)
Industrial						
	12-Coal Mining					
		Consol Coal Group	1605	0	Yes	
		Drummond Company, Inc.	1605	1		
		Peabody Holding Company, Inc.	1605	2	Yes	
	20-Food and Kindred Products					
		Cargill, Inc. - Oil Seeds Division	1605	0	Yes	Yes
		Mead Johnson Nutls/Bristol-Meyers Squibb	1605	2		
		Miller Brewing Company, Eden, NC, Facility	1605	0	Yes	Yes
		National By-Products Inc	1605	1		
	22-Textile Mill Products					
		Hanes Dye and Finishing, Butner Plant	1605	0	Yes	
		Hanes Dye and Finishing, Winston-Salem Plant	1605	0	Yes	Yes
		Highland Industries, Inc.	1605	0	Yes	Yes
		M. J. SOFFE COMPANY - Maxton	1605	0	Yes	Yes
		M. J. SOFFE COMPANY - Bladenboro	1605	0	Yes	Yes
		M. J. SOFFE COMPANY Rowland	1605	0	Yes	Yes
		National Spinning Co., Inc. Washington	1605	0	Yes	Yes
		National Spinning Inc. Beulaville	1605	0	Yes	Yes
		National Spinning Inc. Warsaw	1605	0	Yes	Yes
		National Spinning Inc. Whiteville	1605	0	Yes	Yes
		Springs Industries, Inc.	1605EZ	4		
		Valdese Manufacturing Company	1605	0	Yes	Yes
	23-Apparel and Other Textile Products					
		M. J. SOFFE COMPANY Fayettville	1605	0	Yes	
		TS Designs, Inc.	1605	0	Yes	
	25-Furniture and Fixtures					
		Doxey Furniture Corporation	1605	0	Yes	Yes
	28-Chemicals and Allied Products					
		Ajinomoto Aminoscience LLC	1605	0	Yes	Yes
		Allergan, Inc.	1605	35	Yes	Yes
		Baxter Healthcare Inc.	1605	0	Yes	Yes
		Fisher Scientific Company L.L.C	1605	0	Yes	
		Johnson & Johnson	1605	11	Yes	
		Mallinckrodt, Inc.	1605	0	Yes	Yes
		Pharmacia & Upjohn Caribe Inc.	1605EZ	8		
		The Dow Chemical Company	1605	0	Yes	Yes
		The Estee Lauder Companies	1605	13		
		Wyeth-Lederle Vaccines	1605	0	Yes	
	29-Petroleum Refining and other related Industries					
		ChevronTexaco Corporation	1605EZ	1		
		Sunoco, Inc.	1605	0	Yes	
	30-Rubber and Micsellaneous Products					
		Azdel, Inc	1605	0	Yes	Yes
		Pak-Lite, Inc. - Mebane Plant	1605	0	Yes	
	32-Stone, Clay, Glass, and Concrete Products					
		Lehigh Cement Co. (fmrly Lehigh Portland Cement	1605	8	Yes	
		Lehigh Cement Co. (formerly Calaveras Cement Co	1605	2	Yes	
	33-Primary Metals Industries					
		Alcan Primary Metals Group, Sebree Works	1605	1	Yes	Yes
		Bethlehem Steel Corporation[p]	1605	0	Yes	Yes
		COMMSCOPE CATAWBA PLANT	1605	0	Yes	Yes
		COMMSCOPE CLAREMONT PLANT	1605	0	Yes	Yes
		COMMSCOPE CONOVER REEL RECYCLING	1605	0	Yes	Yes
		COMMSCOPE Headquarters- Hickory	1605	0	Yes	
		COMMSCOPE NEWTON PLANT	1605	0	Yes	Yes
		COMMSCOPE SCOTTSBORO PLANT	1605	0	Yes	Yes
		COMMSCOPE SPARKS PLANT	1605	0	Yes	Yes
		COMMSCOPE STATESVILLE PLANT	1605	0	Yes	Yes
		Noranda Aluminum Inc.	1605	1		Yes
	34-Fabricated Metal Products except machinery and transportation equipment					
		DeBourgh Manufacturing Company	1605EZ	2		

Table B8. Reporting Enitities by Sector and SIC Code, Data Year 2002 (Continued)

Sector	SIC Code	Reporter	Form Type	Number of Projects Reported (Schedule II)	Entity-Wide Report (Schedule III)	Commitments (Schedule IV)
	35-Industrial and Commercial Equipment and Components					
		Michigan CAT	1605	2		
	36-Electronic and Other Electrical Equipment					
		Advanced Micro Devices	1605EZ	5		
		Branson Ultrasonics Corporation	1605	1		
		IBM	1605	0	Yes	Yes
		Lucent Technologies Inc.	1605	26	Yes	Yes
		Motorola Austin	1605	0	Yes	Yes
		Northrop Grumman Poly-Scientific	1605	0	Yes	Yes
		Penn Compression Moulding, Inc.	1605	0	Yes	Yes
		Siemens Power Transmission & Distribution, Inc.	1605	0	Yes	
	37-Transportation Equipment					
		DaimlerChrysler Corporation	1605	2	Yes	
		Ford Motor Company	1605	3	Yes	
		General Motors Corporation	1605	3	Yes	
		International Truck and Engine Corporation	1605	0	Yes	Yes
		Nissan North America, Inc.	1605	0	Yes	
		Rolls-Royce Corporation	1605	4	Yes	
		Sikorsky Aircraft Corporation	1605	5	Yes	Yes
		Toyota Motor North America, Inc.[(p)]	1605	0	Yes	Yes
	38-Instrumentation and Related Products					
		Danaher Controls	1605	0	Yes	
	39-Miscellaneous Manufacturing Industries					
		Republic Metals Corporation	1605	0	Yes	
	48-Communications					
		AT&T	1605	4		
	49-Electric, Gas, and Sanitary Services					
		Dakota Gasification Company	1605	w	w	w
	51-Wholesale Trade - Nondurable Goods					
		Blue Source, LLC	1605	4		
	67-Holding and Other Investment Offices					
		CLE Resources	1605	10		Yes
Total Number of Projects Reported by Entities in Sector				**161**		
Total Number of Entities in Sector Reporting on Schedule				**27**	**57**	**38**
Other						
	49-Electric, Gas, and Sanitary Services					
		Minnesota Resource Recovery Association (MRRA	1605EZ	3		
	86-Membership Organization					
		The Forest Bird Society	1605	0		Yes
	88-Private Household					
		J. Bradford Hollomon	1605EZ	1		
	99-Nonclassifiable Establishment					
		Shih Family	1605EZ	4		
Total Number of Projects Reported by Entities in Sector				**8**		
Total Number of Entities in Sector Reporting on Schedule				**3**	**0**	**1**
Services & Retail						
	49-Electric, Gas, and Sanitary Services					
		Burlington County Board of Chosen Freeholders[(p)]	1605	3		
	57-Furniture and Home Furnishing Stores					
		Abe Krasne Home Furnishings, Inc.	1605	0	Yes	
	72-Personal Services					
		Maple Springs Laundry	1605	0	Yes	Yes
	91-Executive, Legislative, and General					
		U.S. Department of Energy - Energy Management	1605	0	Yes	
Total Number of Projects Reported by Entities in Sector				**3**		
Total Number of Entities in Sector Reporting on Schedule				**1**	**3**	**0**
Total Number of Projects Reported for 2002				**2027**		
Total Number of Entities in Sector Reporting on Schedule				**171**	**114**	**79**

Notes: w = Data Withheld
Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ
Notes: [(p)] Indicates that the report has Preliminary status, meaning the initial submission has been reviewed by EIA but a final version has not been accepted.

Table B9. Emission Reduction Projects by Entity, Data Year 2002

Reporter	Form Type	Project	Location	Project Type
A&N Electric Cooperative	1605	Transmission and Distribution Efficiency Improvements	U.S.	High-efficiency transformers
		Transmission and Distribution Efficiency Improvements	U.S.	Reconductoring
		Demand-Side Management Load Control Program	U.S.	Equipment and appliances improvement or replacement
		Demand-Side Management Load Control Program	U.S.	Load control
Advanced Micro Devices	1605EZ	Second Austin Energy GreenChoice Subscription	U.S.	Zero/Low Emission Power Purchases
		Installation of New Chilled Water systems	U.S.	Heating, ventilation, and air conditioning
		Substitution of Etch Equipment Chilling Technology	U.S.	Equipment and appliances improvement or replacement
		Diffusion Furnace Exhaust Reduction	U.S.	Heating, ventilation, and air conditioning
		Conversion of Dielectric Film Deposition Chamber Clean	U.S.	Substitution
AES Hawaii, Inc.	1605	Mbaracayu Conservation	Foreign	Forest preservation
AES Shady Point LLC	1605	OXFAM America Amazon	Foreign	Forest preservation
AES Thames	1605	CARE Agroforestry	Foreign	Woody biomass production and other agroforestry
AES Warrior Run, Inc.	1605	Indian Dairy Project	Foreign	Livestock
		Carbon Dioxide Plant	U.S.	All other projects not included in the above categories
Alabama Biomass Partners, Ltd	1605EZ	Biomass Waste to Energy	U.S.	Fuel switching
Alcan Primary Metals Group, Sebree Works	1605	PFC Reduction Project	U.S.	Emission avoidance
Allegheny Energy, Inc.	1605	Armstrong Boiler No. 2 Emissions Reduction Project	U.S.	Heat rate or other efficiency improvement
		Armstrong Boiler No. 2 Emissions Reduction Project	U.S.	Availability improvement
		Auxiliary Fuel Switching	U.S.	Fuel switching
		Wire Replacement on Transmission Lines	U.S.	Reconductoring
		Potomac Edison 138/500 kV System Split	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Armstrong Unit 2 - Boiler Controls Replacement	U.S.	Heat rate or other efficiency improvement
		Rivesville Unit No. 6 - Boiler Controls Replacement	U.S.	Heat rate or other efficiency improvement
		R. P. Smith Unit 4 - Boiler Controls Replacement	U.S.	Heat rate or other efficiency improvement
		Hatfield's Ferry Unit 1 - HP/IP Turbine Rotor Replacemer	U.S.	Heat rate or other efficiency improvement
		Hatfield's Ferry Unit 1 - HP/IP Turbine Rotor Replacemer	U.S.	Availability improvement
		Hatfield's Ferry Unit 2 - HP/IP Turbine Rotor Replacemer	U.S.	Heat rate or other efficiency improvement
		Hatfield's Ferry Unit 2 - HP/IP Turbine Rotor Replacemer	U.S.	Availability improvement
		Rivesville Unit 6 - High Pressure Turbine Rotor Replacen	U.S.	Heat rate or other efficiency improvement
		Rivesville Unit 6 - High Pressure Turbine Rotor Replacen	U.S.	Availability improvement
		Willow Island Unit 1- Low Pressure Turbine Rotor Replac	U.S.	Heat rate or other efficiency improvement
		Willow Island Unit 1- Low Pressure Turbine Rotor Replac	U.S.	Availability improvement
		Efficient Distribution Transformers	U.S.	High-efficiency transformers
		Application of Capacitors	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Economic Conductor Selection	U.S.	Reconductoring
		Replace Small Primary Conductors	U.S.	Reconductoring
		Conversion to Higher Voltage Distribution	U.S.	Distribution voltage upgrade
		Small Hydroelectric Station Relicensing	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Demand-Side Management Programs	U.S.	Equipment and appliances improvement or replacement
		Demand-Side Management Programs	U.S.	Lighting and lighting control
		Demand-Side Management Programs	U.S.	Load control
		Demand-Side Management Programs	U.S.	Heating, ventilation, and air conditioning
		Demand-Side Management Programs	U.S.	Building shell improvement
		Demand-Side Management Programs	U.S.	Motor and motor drive
		Green Lights Utility Ally Program	U.S.	Lighting and lighting control
		Adjustable Speed Drives-Plastic Injection Molding Machir	U.S.	Motor and motor drive
		Fly Ash use as replacement for cement	U.S.	Coal ash reuse
		Energy Star Transformer Program	U.S.	High-efficiency transformers
		Armstrong Boiler No. 1 Emissions Reduction Project	U.S.	Heat rate or other efficiency improvement
		Lake Lynn Hydro Electric Station Relicensing	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Armstrong Unit 1 - Boiler Controls Replacement	U.S.	Heat rate or other efficiency improvement
		Black Oak Property Tree Planting	U.S.	Afforestation
		Hatfield's Ferry Unit 3 - LP Turbine Rotor Replacement	U.S.	Heat rate or other efficiency improvement
		Carryall Vehicle Program	U.S.	Operation of efficient vehicles
		Hatfield's Ferry Unit 1 - LP Turbine Rotor Replacement	U.S.	Heat rate or other efficiency improvement
		Performance Monitoring Systems	U.S.	Heat rate or other efficiency improvement
		SF6 Breaker Replacement	U.S.	Reclamation: Recycling
		EnviroTech Fund - Domestic Activities	U.S.	All other projects not included in the above categories
		Adjustable Speed Drives for PA Fans - Hatfield's Ferry P	U.S.	Heat rate or other efficiency improvement
		EnviroTech Fund - Foreign Activities	Foreign	All other projects not included in the above categories
		Hatfield's Ferry Unit 2 LP Turbine Rotor Replacement	U.S.	Heat rate or other efficiency improvement
		Willow Island Unit 2 Boiler Controls Replacement	U.S.	Heat rate or other efficiency improvement
		Hatfield's Ferry Unit 2 Natural Gas Reburn	U.S.	Fuel switching
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		Pleasants Unit 2 - Boiler Controls Replacement	U.S.	Heat rate or other efficiency improvement
		High Pressure Sodium Vapor Streetlight Replacement Pr	U.S.	Lighting and lighting control
		Harrison Unit #3 HP Turbine Rotor Replacement	U.S.	Heat rate or other efficiency improvement
		Harrison Unit #3 HP Turbine Rotor Replacement	U.S.	Availability improvement
		Harrison Unit #3 Boiler Controls Replacement	U.S.	Heat rate or other efficiency improvement
		Harrison Unit #2 Boiler Controls Replacement	U.S.	Heat rate or other efficiency improvement
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
Allergan, Inc.	1605	AMO Facility Closure	U.S.	Other energy efficiency project
		Allergan LOK Brazil Operation Consolidation	Foreign	Other energy efficiency project
		Allergan Medical Plastics Energy Managment System Up	U.S.	Load control
		Allergan Medical Plastics Energy Managment System Up	U.S.	Heating, ventilation, and air conditioning
		Allergan Brazil Building Management System Installation	Foreign	Lighting and lighting control
		Allergan Brazil Building Management System Installation	Foreign	Load control
		Allergan Brazil Building Management System Installation	Foreign	Heating, ventilation, and air conditioning
		Reduction in Operating Time for Blowmolding Equipment	Foreign	Load control
		Compressed Air Leak Repair	Foreign	Equipment and appliances improvement or replacement
		Air Compressor System Upgrade	U.S.	Equipment and appliances improvement or replacement
		Air Compressor System Upgrade	U.S.	Load control
		Allergan Italy Facility Closure	Foreign	Other energy efficiency project
		Allergan Facility Divestiture	U.S.	Other energy efficiency project
		Lighting Retrofits and Upgrades	U.S.	Lighting and lighting control
		Direct Expansion Cooler Unit Redesign	U.S.	Heating, ventilation, and air conditioning
		Elimination of Catalytic Thermal Oxidizer	U.S.	Equipment and appliances improvement or replacement
		Curtail Weekend Energy Usage	Foreign	Load control
		Curtail Weekend Energy Usage	Foreign	Heating, ventilation, and air conditioning
		Replace Mercury Vapor Lamps with Fluorescent Lamps	Foreign	Lighting and lighting control
		Insulate Process Lines	Foreign	Heating, ventilation, and air conditioning
		Elimination of CFCs at U.S. Plants	U.S.	Substitution
		Elimination of CFCs at Farnborough, UK	Foreign	Substitution

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		Compressor Replacement	U.S.	Equipment and appliances improvement or replacement
		Chilled Water Decouple Loop	U.S.	Heating, ventilation, and air conditioning
		Floor Fan Elimination	U.S.	Equipment and appliances improvement or replacement
		Chiller Replacement	U.S.	Heating, ventilation, and air conditioning
		CFC Substitution with Chiller Replacement	U.S.	Substitution
		Add Variable Frequency Drive to Existing Chiller	U.S.	Heating, ventilation, and air conditioning
		Lighting Upgrade at Allergan Irvine	U.S.	Lighting and lighting control
		Allergan America Facility Closure	U.S.	Other energy efficiency project
		Reduce Air Compressor Discharge Pressure	U.S.	Other energy efficiency project
		Install Photoelectric Sensor on Grinder and Blowers	U.S.	Load control
		Install Higher Efficiency Motors	U.S.	Motor and motor drive
		Install Occupancy Sensors	U.S.	Lighting and lighting control
		Install Bi-Level Lighting Controls on HID Lighting	U.S.	Lighting and lighting control
		Replace Existing Hot Water Boiler with Heat Exchanger	U.S.	Heating, ventilation, and air conditioning
		Install On/Off Controller on Hot/Cold Water Pumps	U.S.	Load control
		Downsize Boiler to Meet Requirements	Foreign	Heating, ventilation, and air conditioning
		Acetone Catalytic Oxidizer Improvement	Foreign	Equipment and appliances improvement or replacement
		Motor Replacement Project	Foreign	Motor and motor drive
Alliant Energy	1605	Columbia 1&2 Turbine Efficiency	U.S.	Heat rate or other efficiency improvement
		SFDL Fuel Switching	U.S.	Fuel switching
		Tire Derived Fuel Generation	U.S.	Fuel switching
		Energy end use-Electric WP&L	U.S.	Equipment and appliances improvement or replacement
		Energy end use-Electric WP&L	U.S.	Lighting and lighting control
		Energy end use-Electric WP&L	U.S.	Load control
		Energy end use-Electric WP&L	U.S.	Heating, ventilation, and air conditioning
		Energy end use-Electric WP&L	U.S.	Building shell improvement
		Energy end use-Electric WP&L	U.S.	Motor and motor drive
		Energy end use-Electric WP&L	U.S.	Fuel switching
		Energy end use-Gas WP&L	U.S.	Equipment and appliances improvement or replacement
		Energy end use-Gas WP&L	U.S.	Load control
		Energy end use-Gas WP&L	U.S.	Heating, ventilation, and air conditioning
		Energy end use-Gas WP&L	U.S.	Fuel switching
		Conservation tillage	U.S.	Conservation tillage
		Forest preservation	U.S.	Forest preservation
		Afforestation	U.S.	Afforestation
		Afforestation	U.S.	Modified forest management
		Habitat Restoration	U.S.	Other carbon sequestration projects/activities
		Transmission line improvements	U.S.	Other transmission & distribution improvements
		WP&L Green Lights Projects	U.S.	Lighting and lighting control
		Energy End Use - Gas IES	U.S.	Heating, ventilation, and air conditioning
		Energy End Use - Electric IES	U.S.	Urban forestry (energy effects only)
		Energy End Use - Gas IPC	U.S.	Building shell improvement
		Energy End Use - Electric IPC	U.S.	Industrial power systems
		Urban Forestry IES	U.S.	Urban forestry (energy effects only)
		Urban Forestry IPC	U.S.	Urban forestry (energy effects only)
		Wind Power-Iowa	U.S.	Zero/Low Emission Power Purchases
		Minergy Waste Generation	U.S.	Zero/Low Emission Power Purchases
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		Switchgrass Cofiring	U.S.	Fuel switching
		Fly Ash Utilization	U.S.	Coal ash reuse
		Verona Landfill	U.S.	Zero/Low Emission Power Purchases
		Mallard Ridge Landfill	U.S.	Zero/Low Emission Power Purchases
		Cedar Rapids Landfill (IES)	U.S.	Fuel switching
		Recycling Activities	U.S.	Materials recycling/reuse
		Superior Glacier Ridge Landfill	U.S.	Zero/Low Emission Power Purchases
		Berlin Landfill	U.S.	Fuel switching
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		Wind Power-Wisconsin	U.S.	Zero/Low Emission Power Purchases
		Deer Ridge Dairy	U.S.	Fuel switching
		Double S Dairy	U.S.	Fuel switching
		Urban Forestry IP&L	U.S.	Urban Forestry (sequestration only)
Ameren Corporation (formerly UE and CIPS)	1605	Subtransmission Reconductoring	U.S.	Reconductoring
		Transformer Replacement	U.S.	High-efficiency transformers
		Waste Oil Heat Recovery	U.S.	Fuel switching
		Meramec Power Plant Control Upgrade	U.S.	Heat rate or other efficiency improvement
		Meramec Power Plant Control Upgrade	U.S.	Availability improvement
		Conversion to a dry flyash handling system.	U.S.	Heat rate or other efficiency improvement
		Conversion to a dry flyash handling system.	U.S.	Availability improvement
		Install adjustible speed fan drives replacing fixed speed	U.S.	Heat rate or other efficiency improvement
		Replaced motor-generator exciters with static exciter sys	U.S.	Heat rate or other efficiency improvement
		Demand Side Management Projects	U.S.	Equipment and appliances improvement or replacement
		Demand Side Management Projects	U.S.	Lighting and lighting control
		Demand Side Management Projects	U.S.	Load control
		Demand Side Management Projects	U.S.	Heating, ventilation, and air conditioning
		Demand Side Management Projects	U.S.	Building shell improvement
		Demand Side Management Projects	U.S.	Motor and motor drive
		Meramec Power Plant Lighting Upgrade	U.S.	Lighting and lighting control
		Street Light Conversion	U.S.	Lighting and lighting control
		Purchase of Light Weight Rail Cars	U.S.	Operation of efficient vehicles
		Milam Landfill Methane Recovery	U.S.	Landfill
		Increased Nuclear generation	U.S.	Increase in low-emitting capacity
		Carpooling	U.S.	Demand Modification: Carpooling/Vanpooling
		Green Leaf Project	U.S.	Urban Forestry (sequestration only)
		Flyash substitution for cement	U.S.	Coal ash reuse
		Sioux Plant Control Upgrade	U.S.	Heat rate or other efficiency improvement
		EnviroTech Fund - US	U.S.	Other energy efficiency project
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		EnviroTech Fund - Foreign	Foreign	Other energy efficiency project

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
American Electric Power, Inc.	1605	AEP-West Land Management	U.S.	Afforestation
		Renewable Generation - Solar	U.S.	Increase in low-emitting capacity
		Renewable Generation - Wind: AEP-West	U.S.	Increase in low-emitting capacity
		Transmission Efficiency Improvements: AEP-West	U.S.	Distribution voltage upgrade
		Demand Side Management Activities: AEP-West	U.S.	Equipment and appliances improvement or replacement
		Demand Side Management Activities: AEP-West	U.S.	Lighting and lighting control
		Demand Side Management Activities: AEP-West	U.S.	Heating, ventilation, and air conditioning
		ClearChoice(sm) Green Pricing Initiative: AEP-West	U.S.	Zero/Low Emission Power Purchases
		Watts on Schools	U.S.	Increase in low-emitting capacity
		Southwest Mesa Wind Farm	U.S.	Increase in low-emitting capacity
		Heat Rate Improvement Projects (Oper. and Equip. Chai	U.S.	Heat rate or other efficiency improvement
		Heat Rate Improvement (Due to improved load optimizat	U.S.	Heat rate or other efficiency improvement
		Open-Loop Transmission Groundwire Resistive Loss Rec	U.S.	Other transmission & distribution improvements
		Distribution System Equipment Improvements	U.S.	Reconductoring
		Distribution System Equipment Improvements	U.S.	Distribution voltage upgrade
		Transmission System Reinforcements	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Nuclear Plant Improved Utilization	U.S.	Availability improvement
		Hydroelectric Facility Improvements: AEP-East	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Residential Demand Side Management Programs: AEP-	U.S.	Equipment and appliances improvement or replacement
		Residential Demand Side Management Programs: AEP-	U.S.	Lighting and lighting control
		Residential Demand Side Management Programs: AEP-	U.S.	Load control
		Residential Demand Side Management Programs: AEP-	U.S.	Heating, ventilation, and air conditioning
		Residential Demand Side Management Programs: AEP-	U.S.	Building shell improvement
		Commercial/Industrial DSM Programs: AEP-East	U.S.	Lighting and lighting control
		Commercial/Industrial DSM Programs: AEP-East	U.S.	Heating, ventilation, and air conditioning
		Commercial/Industrial DSM Programs: AEP-East	U.S.	Motor and motor drive
		AEP-MARAG-1994-2	U.S.	Afforestation
		AEP-MARAG-1993-2	U.S.	Afforestation
		Fly Ash Utilization Program (Cement Replacement)	U.S.	Coal ash reuse
		Fuel Switch Coal to Natural Gas (Conesville Unit 1-3)	U.S.	Fuel switching
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Green Lights	U.S.	Lighting and lighting control
		AEP-FM-1991	U.S.	Modified forest management
		AEP-FM-1992	U.S.	Modified forest management
		AEP-FM-1993	U.S.	Modified forest management
		AEP-FM-1994	U.S.	Modified forest management
		AEP-FM-1995	U.S.	Modified forest management
		AEP-FM-1996	U.S.	Modified forest management
		AEP-AGSPOIL-1995	U.S.	Afforestation
		AEP-AGSPOIL-1996	U.S.	Afforestation
		AEP-MARAG-1995	U.S.	Afforestation
		AEP-MARAG-1996	U.S.	Afforestation
		AEP-MARAG-1991	U.S.	Afforestation
		AEP-AGSPOIL-1992	U.S.	Afforestation
		AEP-MARAG- 1992	U.S.	Afforestation
		AEP-MARAG-1993	U.S.	Afforestation
		AEP-AGSPOIL-1993	U.S.	Afforestation
		AEP-MARAG-1994	U.S.	Afforestation
		AEP-AGSPOIL-1994	U.S.	Afforestation
		Enviro Tech Investment Fund I Limited Partnership - US	U.S.	Research and development programs
		Enviro Tech Investment Funds - Foreign	Foreign	Research and development programs
		Noel Kempff Mercado Climate Action Project	Foreign	Forest preservation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		AEP-FM-1997	U.S.	Modified forest management
		AEP-AGSPOIL-1997	U.S.	Afforestation
		AEP-MARAG-1997	U.S.	Afforestation
		AEP-FM-1998	U.S.	Modified forest management
		AEP-AGSPOIL-1998	U.S.	Afforestation
		AEP-MARAG-1998	U.S.	Afforestation
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		AEP-FM-1999	U.S.	Modified forest management
		AEP-MARAG-1999	U.S.	Afforestation
		AEP-AGSPOIL-1999	U.S.	Afforestation
		AEP-MARAG-2000	U.S.	Afforestation
		AEP-AGSPOIL-2000	U.S.	Afforestation
		AEP-FM-2000	U.S.	Modified forest management
		Renewable Generation - Wind: AEP-East	U.S.	Increase in low-emitting capacity
		Sulfur Hexafluoride Gas Reduction	U.S.	Emission avoidance
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-NFWF	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		AEP-FM-2001	U.S.	Modified forest management
		Catahoula Reforestation Project-2001	U.S.	Afforestation
		AEP-AGSPOIL-2001	U.S.	Afforestation
		AEP-Private lands-2001	U.S.	Afforestation
		AEP-Fernwood-2001	U.S.	Afforestation
		Guaraquecaba Climate Action Project	Foreign	Modified forest management
		ECCF-MARAG-1991	U.S.	Afforestation
		ECCF-MARAG-1992	U.S.	Afforestation
		ECCF-MARAG-1993	U.S.	Afforestation
		ECCF-AGSPOIL-1995	U.S.	Afforestation
		ECCF-MARAG-1995	U.S.	Afforestation
		Ohio Central Station Site-MARAG-1996	U.S.	Afforestation
		ECCF-MARAG-1996	U.S.	Afforestation
		AEP-FM-2002	U.S.	Modified forest management
		ECCF-MARAG-1997	U.S.	Afforestation
		ECCF-AGSPOIL-1997	U.S.	Afforestation
		WCFGPL-MARAG-1996	U.S.	Afforestation
		ECCF-MARAG-1998	U.S.	Afforestation
		WILDS PROJECT-MARAG-1998	U.S.	Afforestation
		DUNDAS-MARAG-1998	U.S.	Afforestation
		ECCF-AGSPOIL-1998	U.S.	Afforestation

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		DUNDAS-AGSPOIL-1998	U.S.	Afforestation
		ECCF-MARAG-1999	U.S.	Afforestation
		ECCF-MARAG-2000	U.S.	Afforestation
		WCFGPL-MARAG-2000	U.S.	Afforestation
		ECCF-AGSPOIL-2000	U.S.	Afforestation
		AEP-AGCROP-2002	U.S.	Afforestation
		AEP-Private Lands-2002	U.S.	Afforestation
		AEP-AGSPOIL-2002	U.S.	Afforestation
		Catahoula-Reforestation Project-2002	U.S.	Afforestation
		USFWS Catahoula Reforestation Project-2002	U.S.	Afforestation
Anoka Municipal Utility	1605EZ	Wind Generation	U.S.	Increase in low-emitting capacity
		lighting replacement	U.S.	Lighting and lighting control
		Central A/C Replacement	U.S.	Heating, ventilation, and air conditioning
		Demand Management	U.S.	General energy use
Arizona Electric Power Cooperative, Inc.	1605EZ	Fly Ash Sales	U.S.	Coal ash reuse
		Solar Electric Power Associates	U.S.	Research and development programs
		Distributive Control System installed on Steam Unit 3 (co	U.S.	General generation, transmission & distribution projects
		Condensate pump upgrade	U.S.	General generation, transmission & distribution projects
		Lighting & Exit Sign Replacement	U.S.	Lighting and lighting control
		Carpool	U.S.	Demand Modification: Carpooling/Vanpooling
Asheville Landfill Gas, LLC	1605	Buncombe County Landfill	U.S.	Landfill
AT&T	1605	Electricity Use Reduction Program	U.S.	Lighting and lighting control
		Electricity Use Reduction Program	U.S.	Heating, ventilation, and air conditioning
		Telecommuting	U.S.	Demand Modification: Telecommuting
		Fleet Cost Reduction Program	U.S.	Demand Modification: Other
		Recycling/Takeback/Reuse Projects	U.S.	Materials recycling/reuse
BARC Electric Cooperative	1605	System Line Conversions and Reconductoring	U.S.	High-efficiency transformers
		System Line Conversions and Reconductoring	U.S.	Reconductoring
		System Line Conversions and Reconductoring	U.S.	Distribution voltage upgrade
		Demand-Side Management Load Control Programs	U.S.	Heating, ventilation, and air conditioning
Berkshire Power LLC	1605	Natural gas fired electric generation	U.S.	Increase in low-emitting capacity
		Natural gas fired electric generation	U.S.	Decrease in high-emitting capacity
Biomass Partners, LP	1605EZ	Biomass Waste to Energy	U.S.	Fuel switching
Blue Source, LLC	1605	West Texas CO2 Pipeline-EOR	U.S.	Carbon dioxide injection into the ground
		Wyoming EOR	U.S.	Carbon dioxide injection into the ground
		Mississippi EOR	U.S.	Carbon dioxide injection into the ground
		West Texas EOR-A	U.S.	Carbon dioxide injection into the ground
Bountiful City Light & Power	1605	Hydroelectric plant operations	U.S.	Increase in low-emitting capacity
		Capacitor bank installation - increasing system efficiency	U.S.	Distribution voltage upgrade
		Air fuel ratio controller installed in dual fuel engine	U.S.	Heat rate or other efficiency improvement
		Tree planting	U.S.	Urban Forestry (sequestration only)
		Street lighting replacement	U.S.	Lighting and lighting control
		Residential compact fluorescent lighting program	U.S.	Lighting and lighting control
Branson Ultrasonics Corporation	1605	Electrical Energy Consumption	U.S.	Lighting and lighting control
Burlington County Board of Chosen Freeholders[(o)]	1605	Landfill Gas Flaring	U.S.	Landfill
		Burlington County Regional Recycling Program	U.S.	Materials recycling/reuse
Carolina Power & Light Company	1605	Nuclear Capacity Improvement	U.S.	Availability improvement
		Nuclear Capacity Improvement	U.S.	Increase in low-emitting capacity
Catawba Landfill Gas, LLC	1605	Blackburn Landfill	U.S.	Landfill
CDX Gas, LLC	1605	Pinnacle Mine Coalbed Methane Recovery	U.S.	Production coal mines, underground, longwall
		Arkoma Mine Coalbed Methane Recovery	U.S.	Production coal mines, underground, longwall
ChevronTexaco Corporation	1605EZ	ChevronTexaco Lower Mississippi River Valley Reforesta	U.S.	Afforestation
Choptank Electric Cooperative	1605	System Line Conversions and Reconductoring	U.S.	High-efficiency transformers
		System Line Conversions and Reconductoring	U.S.	Reconductoring
		System Line Conversions and Reconductoring	U.S.	Distribution voltage upgrade
Cinergy Corp.	1605	Gibson Performance Maximization Program	U.S.	Heat rate or other efficiency improvement
		Cayuga Heat Rate Improvements	U.S.	Heat rate or other efficiency improvement
		Wabash River Heat Rate Improvement	U.S.	Heat rate or other efficiency improvement
		Residential Wrap-Up Program	U.S.	Equipment and appliances improvement or replacement
		Residential Wrap-Up Program	U.S.	Lighting and lighting control
		Residential Energy Efficient Lighting Program	U.S.	Lighting and lighting control
		Residential Smart $aver & Heat Pump Savings Program:	U.S.	Equipment and appliances improvement or replacement
		Residential Smart $aver & Heat Pump Savings Program:	U.S.	Lighting and lighting control
		Residential Smart $aver & Heat Pump Savings Program:	U.S.	Heating, ventilation, and air conditioning
		Residential Smart $aver & Heat Pump Savings Program:	U.S.	Building shell improvement
		Residential Seal-Up & Low-Income Efficiency Program	U.S.	Lighting and lighting control
		Residential Seal-Up & Low-Income Efficiency Program	U.S.	Heating, ventilation, and air conditioning
		Residential Seal-Up & Low-Income Efficiency Program	U.S.	Building shell improvement
		Commercial Audit/Incentive Program	U.S.	Lighting and lighting control
		Commercial Audit/Incentive Program	U.S.	Heating, ventilation, and air conditioning
		Commercial Audit/Incentive Program	U.S.	Motor and motor drive
		Commercial Direct Lighting	U.S.	Lighting and lighting control
		Industrial Efficiency Improvement & Energy Awareness P	U.S.	Equipment and appliances improvement or replacement
		Industrial Efficiency Improvement & Energy Awareness P	U.S.	Lighting and lighting control
		Industrial Efficiency Improvement & Energy Awareness P	U.S.	Heating, ventilation, and air conditioning
		Industrial Efficiency Improvement & Energy Awareness P	U.S.	Motor and motor drive
		Commercial/Industrial Peak Reduction Program	U.S.	Load control
		Planergy	U.S.	Load control
		Green Lights Program	U.S.	Lighting and lighting control
		Commercial/Industrial Lighting Rebate Program	U.S.	Lighting and lighting control
		Thermal Energy (Cool) Storage Program	U.S.	Load control
		Thermal Energy (Cool) Storage Program	U.S.	Heating, ventilation, and air conditioning
		Commercial/Industrial High Efficiency Motors Plan	U.S.	Motor and motor drive
		Commercial/Industrial Adjustable Speed Drive Plan	U.S.	Motor and motor drive
		Fleet Alternative Fuels	U.S.	Operation of alternative fuel vehicles (AFVs)
		Fleet Alternative Fuels	U.S.	Infrastructure improvement
		Danville, IN Electric Generation	U.S.	Landfill
		Rumpke Landfill Gas Recovery	U.S.	Landfill
		Facility Tree Planting Program	U.S.	Afforestation
		Facility Tree Planting Program	U.S.	Urban Forestry (sequestration only)
		Benificial Use of Coal Fly Ash	U.S.	Coal ash reuse
		Recycling Programs	U.S.	Materials recycling/reuse
		Merger Dispatch Savings	U.S.	Dispatching changes only
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Rio Bravo Carbon Sequestration Pilot Project (Full Share	Foreign	Forest preservation
		Mississippi River Valley Bottomland Hardwood Restoratio	U.S.	Afforestation
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		WRP Tree Planting Program	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Cinergy Corp. Ducks Unlimited Bottomland Hardwood R	U.S.	Afforestation
		Cinergy Corp. The Nature Conservancy Reforestation an	U.S.	Afforestation
		Cinergy Corp. Wild Turkey Federation Operation Big Sky	U.S.	Afforestation
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		Home Energy House Call	U.S.	Equipment and appliances improvement or replacement
		SF6 Emission Reduction Partnership	U.S.	Reclamation: Recycling
		Hendricks County McCloud Park Project	U.S.	Afforestation
		Natural Gas Star Program	U.S.	Natural gas distribution
		Sycamore Land Trust	U.S.	Afforestation
		NICHES project	U.S.	Afforestation
City of Austin Electric Utility (Austin Energy)	1605EZ	Coal Combustion Byproduct Reutilization	U.S.	Coal ash reuse
		General Transmission/Distribution Efficiency Improvemer	U.S.	General generation, transmission & distribution projects
		South Texas Project	U.S.	Increase in low-emitting capacity
		West Texas Wind Power Purchase	U.S.	Zero/Low Emission Power Purchases
		Demand Side Management Programs	U.S.	General energy use
		Landfill Gas Generation	U.S.	Landfills: Landfill gas recovery for energy use
City of Edmond, Oklahoma, Electric Department	1605EZ	High Efficiency Transformers	U.S.	High-efficiency transformers
		High Efficiency Heat Pumps	U.S.	Heating, ventilation, and air conditioning
		Trees/Shrubs Planting	U.S.	Urban Forestry (sequestration only)
City of Klamath Falls- Cogen	1605	FOSSIL FUEL DISPLACEMENT THROUGH COALBED	U.S.	Increase in low-emitting capacity
		Oregon Forest Resources Trust Reforestation Program	U.S.	Reforestation
		SOLAR RURAL ELECTRIFICATION WITH PHOTOVOL	Foreign	Increase in low-emitting capacity
City of Palo Alto	1605EZ	Residential Energy Efficiency Program	U.S.	Equipment and appliances improvement or replacement
		Commercial Energy Efficiency Program	U.S.	Equipment and appliances improvement or replacement
City Public Service	1605	Desert Sky Wind Turbine Power Purchase	U.S.	Zero/Low Emission Power Purchases
		Streetlight Replacements	U.S.	Lighting and lighting control
		Wash Right Rebates	U.S.	Equipment and appliances improvement or replacement
		SF6 Inventory	U.S.	Emission avoidance
		Flyash Sales	U.S.	Materials recycling/reuse
		All Other Recycling	U.S.	Materials recycling/reuse
		Tree Planting	U.S.	Urban Forestry (sequestration only)
		South Texas Project Nuclear Operating Company	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Mow Down Smog	U.S.	Equipment and appliances improvement or replacement
City Utilities of Springfield	1605	LOW SULFUR FUEL SWITCH - SWPS	U.S.	Fuel switching
		HEAT RATE IMPROVEMENTS - SWPS	U.S.	Heat rate or other efficiency improvement
		Urban Forestry	U.S.	Urban Forestry (sequestration only)
		Natural Gas Fleet	U.S.	Operation of alternative fuel vehicles (AFVs)
		Natural Gas Fleet	U.S.	Infrastructure improvement
		SF6 Recovery	U.S.	Reclamation: Recycling
		Wind Energy offering	U.S.	Zero/Low Emission Power Purchases
CLE Resources	1605	Cycloid	U.S.	Use of more efficient vehicle components (e.g. tires)
		Revolve Technologies - Magnetic Bearings	U.S.	Motor and motor drive
		Electronic Lighting (OK Industries)	U.S.	Lighting and lighting control
		Industrial Devices Corporation (IDC)	U.S.	Motor and motor drive
		Active Power	U.S.	Industrial power systems
		Revolve Technologies - Dry Gas Seals	U.S.	Natural gas transmission
		Lightware	U.S.	Equipment and appliances improvement or replacement
		Valdor	U.S.	Emission avoidance
		McHugh Software	U.S.	Service efficiency improvements
		McHugh Software - Foreign	Foreign	Service efficiency improvements
Cleco Corporation	1605	Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		Bayou Jean de Jean Reforestation	U.S.	Afforestation
		Maknockanut Lake Plantation Carbon Unit #1	U.S.	Afforestation
CMV Joint Venture	1605	Oak Grove Coalbed Methane Recovery Project	U.S.	Other
		White Oak Creek Coalbed Methane Recovery	U.S.	Other
Community Electric Cooperative	1605	System Line Conversion and Reconductoring	U.S.	High-efficiency transformers
		System Line Conversion and Reconductoring	U.S.	Reconductoring
		System Line Conversion and Reconductoring	U.S.	Distribution voltage upgrade
Conectiv Atlantic Generation (CAG)	1605	Peach Bottom Nuclear Units #2 & 3 Uprate Program	U.S.	Increase in low-emitting capacity
		Urban Tree Planting	U.S.	Urban Forestry (sequestration only)
		Deepwater Natural Gas Usage	U.S.	Fuel switching
		Employee Van Pooling	U.S.	Demand Modification: Carpooling/Vanpooling
		Employee Telecommuting	U.S.	Demand Modification: Telecommuting
		Wetlands Reclamation Project	U.S.	Other carbon sequestration projects/activities
Conectiv Delmarva Generation	1605	T&D Loss Reduction	U.S.	High-efficiency transformers
		T&D Loss Reduction	U.S.	Reconductoring
		T&D Loss Reduction	U.S.	Distribution voltage upgrade
		T&D Loss Reduction	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Hay Road Combined Cycle	U.S.	Heat rate or other efficiency improvement
		Hay Road Combined Cycle	U.S.	Availability improvement
		Hay Road Combined Cycle	U.S.	Increase in low-emitting capacity
		DP&L Facility Energy Saving	U.S.	Lighting and lighting control
		DP&L Facility Energy Saving	U.S.	Load control
		DP&L Facility Energy Saving	U.S.	Heating, ventilation, and air conditioning
		Demand Side Management	U.S.	Equipment and appliances improvement or replacement
		Demand Side Management	U.S.	Lighting and lighting control
		Demand Side Management	U.S.	Load control
		Demand Side Management	U.S.	Heating, ventilation, and air conditioning
		Demand Side Management	U.S.	Building shell improvement
		Demand Side Management	U.S.	Motor and motor drive
		CNG Vehicles	U.S.	Operation of alternative fuel vehicles (AFVs)
		Urban Tree Planting	U.S.	Urban Forestry (sequestration only)
		Ash Reuse	U.S.	Coal ash reuse
		Edge Moor Fuel Substitution	U.S.	Fuel switching
		Edge Moor Landfill Gas Use	U.S.	Landfill
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Peach Bottom Nuclear Units #2 & #3 Uprate Program	U.S.	Increase in low-emitting capacity
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		St. Catherine BHFR Project	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St Catherine Creek BHFR ESI	U.S.	Afforestation
		Mass Transit to DC	U.S.	Demand Modification: Use of mass transit
		Soy Vehicles	U.S.	Operation of alternative fuel vehicles (AFVs)
Consolidated Edison Company of New York, Inc.	1605	Natural Gas STAR Best Management Practices	U.S.	Natural gas distribution
		Arthur Kill - Fuel Switching to Natural Gas	U.S.	Fuel switching
		SF6 Best Management Practices	U.S.	Reclamation: Recycling
		SF6 Best Management Practices	U.S.	Emission avoidance
		Alternative Fuel Vehicles - CNG	U.S.	Operation of alternative fuel vehicles (AFVs)
Constellation Energy Group, Inc	1605	Brandon Shores Generating Station Heat Rate Improven	U.S.	Heat rate or other efficiency improvement
		C.P. Crane Generating Station Heat Rate Improvements	U.S.	Heat rate or other efficiency improvement
		H.A. Wagner Generating Station Heat Rate Improvemen	U.S.	Heat rate or other efficiency improvement
		Hydroelectric Generation Improvements	U.S.	Heat rate or other efficiency improvement
		Hydroelectric Generation Improvements	U.S.	Increase in low-emitting capacity
		Transmission / Distribution Improvements	U.S.	Distribution voltage upgrade
		Transmission / Distribution Improvements	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Demand Side Management Programs	U.S.	Equipment and appliances improvement or replacement
		Demand Side Management Programs	U.S.	Load control
		Demand Side Management Programs	U.S.	Heating, ventilation, and air conditioning
		Demand Side Management Programs	U.S.	Building shell improvement
		Demand Side Management Programs	U.S.	Motor and motor drive
		Gas Systems O & M (Natural Gas Star Partnership)	U.S.	Natural gas distribution
		Refrigerant/Solvent Recycling and Reduction	U.S.	Reclamation: Recycling
		Solid Waste Recycling and Source Reduction	U.S.	Materials recycling/reuse
		Solid Waste Recycling and Source Reduction	U.S.	waste/source reduction
		Solid Waste Recycling and Source Reduction	U.S.	Education and training programs
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Alternatively Fueled Vehicles	U.S.	Operation of alternative fuel vehicles (AFVs)
		Coal Ash Substitution for Portland Cement	U.S.	Coal ash reuse
		Brandon Shores Station Auxiliary-Load Reductions	U.S.	Equipment and appliances improvement or replacement
		Brandon Shores Station Auxiliary-Load Reductions	U.S.	Lighting and lighting control
		Brandon Shores Station Auxiliary-Load Reductions	U.S.	Heating, ventilation, and air conditioning
		Brandon Shores Station Auxiliary-Load Reductions	U.S.	Other energy efficiency project
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Energy Star Buildings/Green Lights Program Participatio	U.S.	Equipment and appliances improvement or replacement
		Energy Star Buildings/Green Lights Program Participatio	U.S.	Load control
		Energy Star Buildings/Green Lights Program Participatio	U.S.	Heating, ventilation, and air conditioning
		Energy Star Buildings/Green Lights Program Participatio	U.S.	Building shell improvement
		Energy Star Buildings/Green Lights Program Participatio	U.S.	Motor and motor drive
		Calvert Cliffs Nuclear Power Plant Generation Increases	U.S.	Availability improvement
		SF6 Handling Procedures in Electric Distribution	U.S.	Reclamation: Recycling
		SF6 Handling Procedures in Electric Distribution	U.S.	Emission avoidance
		Baltimore RESCO Waste-to-Energy MWh Purchases	U.S.	Zero/Low Emission Power Purchases
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		Employee Commute Options	U.S.	Demand Modification: Carpooling/Vanpooling
		Employee Commute Options	U.S.	Demand Modification: Use of mass transit
		Employee Commute Options	U.S.	Demand Modification: Other
		Nine Mile Pt Nuclear Generating Improvements	U.S.	Availability improvement
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
County Sanitation Districts of Los Angeles County	1605	Recovery of Methane at Landfills	U.S.	Landfill
		Recovery of Methane from Wastewater Treatment	U.S.	Wastewater treatment
DaimlerChrysler Corporation	1605	Facility Energy Reduction Projects	U.S.	Equipment and appliances improvement or replacement
		Facility Energy Reduction Projects	U.S.	Lighting and lighting control
		Facility Energy Reduction Projects	U.S.	Heating, ventilation, and air conditioning
		Facility Energy Reduction Projects	U.S.	Motor and motor drive
		Powerhouse Conversion Projects	U.S.	Fuel switching
DeBourgh Manufacturing Company	1605EZ	Make Up Air Unit	U.S.	Heating, ventilation, and air conditioning
		Powder Reclaimers	U.S.	Landfills: Modification of waste stream (e.g., yard waste bans, recycling)
Delaware Electric Cooperative	1605	System Line Conversions & Reconductoring	U.S.	High-efficiency transformers
		System Line Conversions & Reconductoring	U.S.	Reconductoring
Delaware Solid Waste Authority	1605	Southern Solid Waste Management Center (SSWMC)	U.S.	Landfill
		Central Solid Waste Management Center (CSWMC)	U.S.	Landfill
		Cherry Island Landfill (CIL)	U.S.	Landfill
		Pigeon Point Landfill (PPLF)	U.S.	Landfill
Dominion Generation	1605	Increased Nuclear Generation at Surry Power Station	U.S.	Availability improvement
		Increased Nuclear Generation at North Anna Nuclear Po	U.S.	Availability improvement
Drummond Company, Inc.	1605	C Panel Gob Wells	U.S.	Production coal mines, underground, longwall
DTE Energy/ Detroit Edison	1605	Increased Nuclear Utilization	U.S.	Availability improvement
		Increased Nuclear Utilization	U.S.	Increase in low-emitting capacity
		Greenwood Energy Center Fuel Switching	U.S.	Fuel switching
		Distribution Improvements	U.S.	Reconductoring
		Distribution Improvements	U.S.	Distribution voltage upgrade
		Distribution Improvements	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Energy Partnerships	U.S.	Lighting and lighting control
		Energy Partnerships	U.S.	Motor and motor drive
		Energy Partnerships	U.S.	Other energy efficiency project
		Electric Vehicle Demonstration Project	U.S.	Operation of alternative fuel vehicles (AFVs)
		LFG Recovery & Energy Gen - DTE Projects in Service /	U.S.	Landfill
		Forest Land Management	U.S.	Modified forest management
		Southeastern Michigan Afforestation - 1995	U.S.	Afforestation
		Miscellaneous Tree Plantings - 1995	U.S.	Urban Forestry (sequestration only)
		Geothermal Projects	U.S.	Heating, ventilation, and air conditioning
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		State Forest Land Afforestation - 1996	U.S.	Afforestation
		Solar Power - Michigan	U.S.	Increase in low-emitting capacity
		Plant Efficiency Improvements	U.S.	Heat rate or other efficiency improvement
		Coal Ash Reuse - U.S.	U.S.	Coal ash reuse
		Coal Ash Reuse - Canada	Foreign	Coal ash reuse
		State Forest Land Afforestation - 1997	U.S.	Afforestation

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		Miscellaneous Tree Plantings - 1996	U.S.	Urban Forestry (sequestration only)
		Miscellaneous Tree Plantings - 1997	U.S.	Urban Forestry (sequestration only)
		Southeast Michigan Afforestation - 1996	U.S.	Afforestation
		Southeast Michigan Afforestation - 1997	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		State Forest Land Afforestation - 1998	U.S.	Afforestation
		Miscellaneous Tree Plantings - 1998	U.S.	Urban Forestry (sequestration only)
		Landfill Energy Purchases, non-DTE Projects	U.S.	Landfill
		Landfill Gas Recovery Projects	U.S.	Landfill
		State Forest Land Afforestation - 1999	U.S.	Afforestation
		Miscellaneous Tree Plantings - 1999	U.S.	Urban Forestry (sequestration only)
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		LFG Recovery & Energy Gen - DTE Proj outside Service	U.S.	Landfill
		State Forest Land Afforestation - 2000	U.S.	Afforestation
		Miscellaneous Tree Plantings - 2000	U.S.	Urban Forestry (sequestration only)
		Solar Power - California	U.S.	Increase in low-emitting capacity
		Rio Bravo Carbon Sequestration Pilot Project (Full Share	Foreign	Forest preservation
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		State Forest Land Afforestation - 2001	U.S.	Afforestation
		Miscellaneous Tree Plantings - 2001	U.S.	Urban Forestry (sequestration only)
		Miscellaneous Tree Plantings - 2002	U.S.	Urban Forestry (sequestration only)
Duke Energy Corporation	1605	Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Increased Nuclear Generation at McGuire Nuclear Statio	U.S.	Availability improvement
		Increased Nuclear Generation at Catawba Nuclear Static	U.S.	Availability improvement
		Recycling Flyash	U.S.	Coal ash reuse
		Increased Nuclear Generation at Oconee Nuclear Station	U.S.	Availability improvement
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		White Street Landfill Gas Recovery Project	U.S.	Landfill
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		Improved Hydro Efficiency at Lookout Shoals Hydro	U.S.	Heat rate or other efficiency improvement
		Improved Hydro Efficiency at Dearborn Hydro	U.S.	Heat rate or other efficiency improvement
		Improved Hydro Efficiency at Oxford Hydro	U.S.	Heat rate or other efficiency improvement
		Improved Hydro Efficiency at Wylie Hydro	U.S.	Heat rate or other efficiency improvement
		Improved Hydro Eficiency at Wateree Hydro	U.S.	Heat rate or other efficiency improvement
		Improved Hydro efficiency at Fishing Creek Hydro	U.S.	Heat rate or other efficiency improvement
		Natural Gas Star - Pipeline Pull Downs	U.S.	Natural gas transmission
		Natural Gas Star - Sleeve Repairs	U.S.	Natural gas transmission
		Natural Gas Star - Use of Hot Taps for New Connections	U.S.	Natural gas transmission
		Natural Gas Star - Emergency Shutdowm Practices	U.S.	Natural gas transmission
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		Tranmission Breaker Repairs	U.S.	Emission avoidance
Dynegy Midwest Generation Inc.	1605	Burn Waste Oil at Baldwin 3	U.S.	Fuel switching
		Tire-Derived Fuel Cofiring at Baldwin	U.S.	Fuel switching
		Baldwin 3 Heat Rate Improvement	U.S.	Heat rate or other efficiency improvement
		Install Natural Gas Fired Aux. Boiler at Havana	U.S.	Fuel switching
		Hennepin Gas Reburn Project	U.S.	Fuel switching
		New Boiler Controls at Hennepin	U.S.	Heat rate or other efficiency improvement
		Vermilion 1 Heat Rate Improvements	U.S.	Heat rate or other efficiency improvement
		Vermilion 2 Heat Rate Improvements	U.S.	Heat rate or other efficiency improvement
		Add Turbine Shell Heaters on Wood River 4	U.S.	Heat rate or other efficiency improvement
		Fuel Switch To Natural Gas at Hennepin	U.S.	Fuel switching
		Fuel Switch To Natural Gas at Wood River	U.S.	Fuel switching
		Flyash Sales (Baldwin, Havana, Hennepin, Vermilion, Wo	U.S.	Coal ash reuse
		Convert Vermilion Units 1 And 2 To Natural Gas	U.S.	Fuel switching
		Wood River 4 Turbine Rotor Replacement	U.S.	Heat rate or other efficiency improvement
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		IDNR Tree Planting Partnership	U.S.	Afforestation
		Baldwin 2 Turbine H.E.L.P. Blades Installation	U.S.	Heat rate or other efficiency improvement
		Hennepin I Turbine Steam Path Upgrade	U.S.	Heat rate or other efficiency improvement
		Havana 6 Cooling Tower Upgrade	U.S.	Heat rate or other efficiency improvement
		Hennepin Orimulsion Reburn	U.S.	Fuel switching
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Cofire Plastic at Baldwin	U.S.	Fuel switching
		Combustion of used lubricating oil	U.S.	Fuel switching
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		Reduce Number of Plant Start-ups	U.S.	Heat rate or other efficiency improvement
		Dynegy Mississippi River Valley Reforestation Project	U.S.	Afforestation
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		Hennepin Boiler Optimizer	U.S.	Heat rate or other efficiency improvement
		Hennepin Feedwater Heater Orifice Replacements	U.S.	Heat rate or other efficiency improvement
El Paso Production Company	1605	White Oak Creek Coalbed Methane Recovery	U.S.	Production natural gas wells
Energy Management Partners, LP	1605EZ	Biomass Waste to Energy	U.S.	Fuel switching
Entergy Services, Inc.	1605	Raise Nuclear Unit Targets on Annual Capacity Factor	U.S.	Increase in low-emitting capacity
		Grand Gulf Nuclear Station Turbine Upgrade	U.S.	Heat rate or other efficiency improvement
		Independence Unit 1 Feedwater Heater Replacement	U.S.	Heat rate or other efficiency improvement
		Sabine Unit 2 Feedwater Heater Replacement	U.S.	Heat rate or other efficiency improvement
		Ninemile Turbine Retrofit	U.S.	Heat rate or other efficiency improvement
		Transmission and Distribution Efficiency	U.S.	High-efficiency transformers
		Transmission and Distribution Efficiency	U.S.	Reconductoring
		Transmission and Distribution Efficiency	U.S.	Distribution voltage upgrade
		Transmission and Distribution Efficiency	U.S.	Other transmission & distribution improvements
		Vidalia Hydroelectric Station	U.S.	Zero/Low Emission Power Purchases
		Lewis Creek Combustion Control	U.S.	Heat rate or other efficiency improvement

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		Entergy Integrated Solutions, Inc. (Entergy SASI Lighting	U.S.	Equipment and appliances improvement or replacement
		Entergy Integrated Solutions, Inc. (Entergy SASI Lighting	U.S.	Lighting and lighting control
		Entergy Integrated Solutions, Inc. (Entergy SASI Lighting	U.S.	Heating, ventilation, and air conditioning
		White Bluff Unit 1 Feedwater Heater Replacement	U.S.	Heat rate or other efficiency improvement
		Tennessee Gas Compressor Replacement	U.S.	Fuel switching
		White Bluff Unit 2 Feedwater Heaters Replacement	U.S.	Heat rate or other efficiency improvement
		Michoud Unit 3 Efficiency Improvement Project	U.S.	Heat rate or other efficiency improvement
		Wetlands and Carbon Sequestration - Southeast LA & T	U.S.	Other carbon sequestration projects/activities
		Entergy Forestry Projects	U.S.	Reforestation
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restorati	U.S.	Afforestation
		SF6 Reductions	U.S.	Emission avoidance
		Fly Ash use as replacement for cement	U.S.	Coal ash reuse
		Lake Catherine Unit 4 Efficiency Improvement Project	U.S.	Heat rate or other efficiency improvement
		Willow Glen Unit 5 Air Heater Replacement Project	U.S.	Heat rate or other efficiency improvement
		Willow Glen Unit 5 Kidney Trap Replacement	U.S.	Heat rate or other efficiency improvement
		Little Gypsy Unit 3 #6LP Feedwater Heater Replacemen	U.S.	Heat rate or other efficiency improvement
		Willow Glen Unit 3 #2B Feedwater Heater Replacment	U.S.	Heat rate or other efficiency improvement
		Louisiana Station 1 Repowering and Unit Upgrade	U.S.	General generator Improvements
		Natural Gas Vehicle Program	U.S.	Operation of alternative fuel vehicles (AFVs)
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		Natural Gas Pipeline Leak Repairs	U.S.	Natural gas distribution
		White Bluff 2 Aux Fuel Air Dampers	U.S.	Heat rate or other efficiency improvement
		Independence 1 Burner Tilt Upgrade	U.S.	Heat rate or other efficiency improvement
		Independence 2 APH Basket & Turbine Refurbish	U.S.	Heat rate or other efficiency improvement
		Ritchie 1, No. 1 Condenser Retubing	U.S.	Heat rate or other efficiency improvement
		Sabine 2 Furnace Membrane	U.S.	Heat rate or other efficiency improvement
		Sabine 4 - 4C & 4D Condneser Retubing	U.S.	Heat rate or other efficiency improvement
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		Energy Efficiency Programs at Entergy Gulf States, Inc.	U.S.	Building shell improvement
Environmental Synergy, Inc.	1605	ESI Bottomland Hardwood Restoration Project	U.S.	Afforestation
Exelon Corporation	1605	High Efficiency Transformers	U.S.	High-efficiency transformers
		Zion Power House Windmill	U.S.	Increase in low-emitting capacity
		International Brotherhood of Electrical Workers Solar Pa	U.S.	Increase in low-emitting capacity
		Wind and Photovoltaic Generation Pricing Experiment	U.S.	Zero/Low Emission Power Purchases
		ComEd North Commercial Center - Solar Panels	U.S.	Increase in low-emitting capacity
		Chicago Public School Solar Partnership	U.S.	Increase in low-emitting capacity
		Energy Cooperative & Demand Side Management Activi	U.S.	Load control
		Alternative Fuel Vehicles - ComEd Fleet	U.S.	Operation of alternative fuel vehicles (AFVs)
		Landfill Gas Power Purchases	U.S.	Landfill
		Illinois Prairie Grass Plantings	U.S.	Other carbon sequestration projects/activities
		Utility Pole Reuse	U.S.	Other carbon sequestration projects/activities
		Urban Tree Planting	U.S.	Urban Forestry (sequestration only)
		Afforestation	U.S.	Afforestation
		Investment Recovery/Life Cycle Management/Recycling	U.S.	Materials recycling/reuse
		Rerate of Peach Bottom Unit 2	U.S.	Availability improvement
		Rerate of Limerick Unit 2	U.S.	Availability improvement
		Rerate of Peach Bottom Unit 3	U.S.	Availability improvement
		Rerate of Limerick Unit 1	U.S.	Availability improvement
		Overhaul of Conowingo Unit 8	U.S.	Heat rate or other efficiency improvement
		Overhaul of Conowingo Unit 10	U.S.	Heat rate or other efficiency improvement
		Overhaul of Conowingo Unit 9	U.S.	Heat rate or other efficiency improvement
		Overhaul of Conowingo Unit 5	U.S.	Heat rate or other efficiency improvement
		Overhaul of Muddy Run Units 5-8	U.S.	Heat rate or other efficiency improvement
		Operation of CNG Vehicles - PECO Fleet	U.S.	Operation of alternative fuel vehicles (AFVs)
		Fairless Hills LFG to Energy Operation	U.S.	Landfill
		Pennsbury LFG to Energy Operation	U.S.	Landfill
		Wind Power Marketing in Pennsylvania	U.S.	Zero/Low Emission Power Purchases
		Rerate of Lasalle Unit 1	U.S.	Availability improvement
		Rerate of Lasalle Unit 2	U.S.	Availability improvement
		Rerate of Byron Unit 1	U.S.	Availability improvement
		Rerate of Byron Unit 1	U.S.	Increase in low-emitting capacity
		Rerate of Byron Unit 2	U.S.	Availability improvement
		Rerate of Braidwood Unit 1	U.S.	Availability improvement
		Rerate of Braidwood Unit 1	U.S.	Increase in low-emitting capacity
		Rerate of Quad Cities Unit 2	U.S.	Availability improvement
FirstEnergy Corporation	1605	Heat Rate Improvement	U.S.	Heat rate or other efficiency improvement
		Heat Rate Improvement	U.S.	Decrease in high-emitting capacity
		Fuel Switching	U.S.	Fuel switching
		Efficient Lighting (Industrial and Commercial)	U.S.	Lighting and lighting control
		Efficient Motors	U.S.	Motor and motor drive
		Refrigerator Recycling Program	U.S.	Equipment and appliances improvement or replacement
		Refrigerator Recycling Program	U.S.	Other energy efficiency project
		Tree Source	U.S.	Urban Forestry (sequestration only)
		Refrigerator Recycling	U.S.	Reclamation: Recycling
		Substitution of Fly Ash for Portland Cement in Concrete	U.S.	Coal ash reuse
		Good Cents New Home Program	U.S.	Equipment and appliances improvement or replacement
		Good Cents New Home Program	U.S.	Heating, ventilation, and air conditioning
		Hot Water Conservation	U.S.	Equipment and appliances improvement or replacement
		Water Heater Efficiency Improvements	U.S.	Equipment and appliances improvement or replacement
		Audit/Infiltration Single and Multi-Family	U.S.	Equipment and appliances improvement or replacement
		Audit/Infiltration Single and Multi-Family	U.S.	Lighting and lighting control
		Audit/Infiltration Single and Multi-Family	U.S.	Heating, ventilation, and air conditioning
		Food Service Conservation	U.S.	Equipment and appliances improvement or replacement
		Food Service Conservation	U.S.	Lighting and lighting control
		Water Heating - Conservation	U.S.	Equipment and appliances improvement or replacement
		High Efficiency Heat Pump Rebates	U.S.	Heating, ventilation, and air conditioning
		Thermal Energy Storage - Cooling	U.S.	Load control
		Heat Pump Maintenance Check	U.S.	Equipment and appliances improvement or replacement
		Heat Pump Maintenance Check	U.S.	Heating, ventilation, and air conditioning
		Efficient Lighting (Residential)	U.S.	Lighting and lighting control
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Energy Efficient Geothermal System	U.S.	Heating, ventilation, and air conditioning
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Increased Generation at Perry Nuclear Power Plant	U.S.	Availability improvement
		Increased Generation at Davis-Besse Nuclear Power Sta	U.S.	Availability improvement
		Various CFC Replacements	U.S.	Substitution
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		Energy Star	U.S.	Equipment and appliances improvement or replacement
		SF6 Emissions Reduction	U.S.	Emission avoidance
		Increased Generation at Beaver Valley Nuclear Power St	U.S.	Availability improvement
		Yards Creek Pumped Storage Upgrade	U.S.	Heat rate or other efficiency improvement
		Transformer Loss Evaluation Program	U.S.	High-efficiency transformers
		Shunt Capacitor Program	U.S.	Distribution voltage upgrade
		T & D System Improvements	U.S.	Reconductoring
		Met-Ed/Penelec DSM, Efficiency & Electrotechnology Pr	U.S.	Equipment and appliances improvement or replacement
		Met-Ed/Penelec DSM, Efficiency & Electrotechnology Pr	U.S.	Lighting and lighting control
		Met-Ed/Penelec DSM, Efficiency & Electrotechnology Pr	U.S.	Load control
		Met-Ed/Penelec DSM, Efficiency & Electrotechnology Pr	U.S.	Heating, ventilation, and air conditioning
		Met-Ed/Penelec DSM, Efficiency & Electrotechnology Pr	U.S.	Building shell improvement
		Met-Ed/Penelec DSM, Efficiency & Electrotechnology Pr	U.S.	Other energy efficiency project
		JCP&L DSM, Efficiency & Electrotechnology Program	U.S.	Equipment and appliances improvement or replacement
		JCP&L DSM, Efficiency & Electrotechnology Program	U.S.	Lighting and lighting control
		JCP&L DSM, Efficiency & Electrotechnology Program	U.S.	Load control
		JCP&L DSM, Efficiency & Electrotechnology Program	U.S.	Heating, ventilation, and air conditioning
		JCP&L DSM, Efficiency & Electrotechnology Program	U.S.	Building shell improvement
		JCP&L DSM, Efficiency & Electrotechnology Program	U.S.	Motor and motor drive
		Met-Ed Lighting & Building Energy Consumption Reducti	U.S.	Lighting and lighting control
		Met-Ed Lighting & Building Energy Consumption Reducti	U.S.	Heating, ventilation, and air conditioning
		Information Services - Green Computers	U.S.	Equipment and appliances improvement or replacement
		Information Services - Green Computers	U.S.	Other energy efficiency project
		GPU Service Lighting & Building Energy Efficiency Proje	U.S.	Heating, ventilation, and air conditioning
		Electric Vehicles and Employee Trip Reduction Program	U.S.	Operation of alternative fuel vehicles (AFVs)
		Electric Vehicles and Employee Trip Reduction Program	U.S.	Demand Modification: Carpooling/Vanpooling
		Electric Vehicles and Employee Trip Reduction Program	U.S.	Demand Modification: Use of mass transit
		Hamm's Landfill NUG	U.S.	Landfill
		Corry	U.S.	Wastewater treatment
		Manchester Renewable	U.S.	Landfill
		Lake View Landfill	U.S.	Landfill
		Modern Landfill NUG	U.S.	Landfill
		Monmouth County Reclamation Center NUG	U.S.	Wastewater treatment
		Mason Dixon Farms, Inc.	U.S.	Livestock
		Recycling Program	U.S.	Materials recycling/reuse
		Municipal Tree Replacement	U.S.	Urban Forestry (sequestration only)
		Video-Conferencing	U.S.	Demand Modification: Other
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		Compressed Air Solution	U.S.	Equipment and appliances improvement or replacement
Ford Motor Company	1605	Process Upgrades	U.S.	Equipment and appliances improvement or replacement
		1998 - 2002 Plant Energy Efficiency Programs	U.S.	Equipment and appliances improvement or replacement
		1998 - 2002 Performance Projects	U.S.	Other energy efficiency project
FPL Group	1605	Montenay Power Plant	U.S.	Other waste facility
		Aroostook Valley Electric Company	U.S.	Other waste facility
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		FPL Energy Renewable Projects - Hydro	U.S.	Increase in low-emitting capacity
		FPLE Renewable Projects - Wind	U.S.	Increase in low-emitting capacity
		SEGS VIII & IX - solar	U.S.	Increase in low-emitting capacity
		Sanford Power Plant Fuel Switching	U.S.	Fuel switching
		Port Everglades Unit 4 Efficiency Improvement Project	U.S.	Heat rate or other efficiency improvement
		Cape Canaveral Boiler Enhansements and Controls Upg	U.S.	Heat rate or other efficiency improvement
		Putnam Plant Unit 1-2 HRSG replacement	U.S.	Heat rate or other efficiency improvement
		Turkey Point Fossil Power Plt Blr, Controls, Turbine Impr	U.S.	Heat rate or other efficiency improvement
		Riviera Plant Boiler enhansements, Controls Upgrade, LF	U.S.	Heat rate or other efficiency improvement
		Martin Plant LP turbine Improvements	U.S.	Heat rate or other efficiency improvement
		Manatee Plant Low NOx Burners	U.S.	Heat rate or other efficiency improvement
		Fort Myers LP Turbine Improvements	U.S.	Heat rate or other efficiency improvement
		SF6 Reductions	U.S.	Emission avoidance
		Sanford Plant Blr & Controls Updgrades, LP Turbine	U.S.	Heat rate or other efficiency improvement
		FPLE East Mesa Geothermal Projects	U.S.	Increase in low-emitting capacity
		FPL Corporate Recycling	U.S.	Materials recycling/reuse
		Radio Controlled Capacitor System (RCCS)	U.S.	Other transmission & distribution improvements
		Nuclear Generation Improvement	U.S.	Increase in low-emitting capacity
		Gas Expansion Project	U.S.	Fuel switching
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		Multitrade Power Plant	U.S.	Other waste facility
Gas Recovery Systems	1605	Menlo Park	U.S.	Landfill
		Guadalupe	U.S.	Landfill
		Newby Island Landfill	U.S.	Landfill
		GRS American Canyon Landfill	U.S.	Landfill
		GRS Coyote Canyon	U.S.	Landfill
		LGP Orange County, New York	U.S.	Landfill
		Kapaa	U.S.	Landfill
		Santa Cruz	U.S.	Landfill
		Sycamore	U.S.	Landfill
		San Marcos	U.S.	Landfill
		Arbor Hills Electric	U.S.	Landfill
		Lyon Electric	U.S.	Landfill
		C&C Electric	U.S.	Landfill
		Vienna Junction	U.S.	Landfill
		Pine Bend	U.S.	Landfill
		Mallard Lake	U.S.	Landfill
		Rockford Electric	U.S.	Landfill

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		South Barrington	U.S.	Landfill
		Quad Cities Electric	U.S.	Landfill
		Charlotte Motor Speedway	U.S.	Landfill
		Richmond Electric	U.S.	Landfill
		Sunset Farms	U.S.	Landfill
		Fall River	U.S.	Landfill
		East Bridgewater	U.S.	Landfill
		Halifax	U.S.	Landfill
		Randolph	U.S.	Landfill
		Chicopee Electric	U.S.	Landfill
		Sacramento	U.S.	Landfill
General Motors Corporation	1605	1991-2002 GM Annual Energy Competition & Projects	U.S.	Equipment and appliances improvement or replacement
		1991-2002 GM Annual Energy Competition & Projects	U.S.	Lighting and lighting control
		1991-2002 GM Annual Energy Competition & Projects	U.S.	Heating, ventilation, and air conditioning
		1991-2002 GM Annual Energy Competition & Projects	U.S.	Motor and motor drive
		1993 - 1997 Mich. Demand Side Mgt and Energy Partne	U.S.	Equipment and appliances improvement or replacement
		1993 - 1997 Mich. Demand Side Mgt and Energy Partne	U.S.	Lighting and lighting control
		1993 - 1997 Mich. Demand Side Mgt and Energy Partne	U.S.	Heating, ventilation, and air conditioning
		1993 - 1997 Mich. Demand Side Mgt and Energy Partne	U.S.	Motor and motor drive
		1991-2002 Powerhouse Conversions	U.S.	Fuel switching
GeoMet Inc.	1605	White Oak Creek Coalbed Methane Recovery	U.S.	Other
		Oak Grove Coalbed Methane Recovery Project	U.S.	Other
Golden Valley Electric Association, Inc	1605EZ	Use of Hydropower	U.S.	Increase in low-emitting capacity
		Energy Sense DSM Program	U.S.	General energy use
		Tree Give-Away for planting under power lines	U.S.	Urban Forestry (sequestration only)
Granger Electric Company	1605	Granger #1 Generating Station - Wood Road Landfill	U.S.	Landfill
		Granger #2 Generating Station - Grand River Avenue La	U.S.	Landfill
		Ottawa County Farms Landfill Generating Station	U.S.	Landfill
		Grand Blanc Landfill Generating Station	U.S.	Landfill
		Seymour Road Landfill Generating Station	U.S.	Landfill
		Granger MotorWheel Facility	U.S.	Landfill
		Brent Run Landfill Generating Station	U.S.	Landfill
Granger Energy, LLC	1605	Lake County Landfill Gas Project	U.S.	Landfill
		Indianapolis/South Side Landfill Gas Project	U.S.	Landfill
Greater New Bedford Regional Refuse Mgt District	1605	Crapo Hill Landfill Gas Control Project	U.S.	Landfill
Green Mountain Energy Company	1605	Kinko's	U.S.	All other projects not included in the above categories
		All other GMEC customers	U.S.	All other projects not included in the above categories
		GMEC energy purchases for corporate offices	U.S.	Fuel switching
Greene Energy, LLC	1605EZ	Methane Recovery	U.S.	Oil and Natural Gas Systems: Reduction in gas vented due to recovery for energy
Hawaiian Electric Company, Inc.	1605	Commercial & Industrial Energy Efficiency Program	U.S.	Equipment and appliances improvement or replacement
		Commercial & Industrial Energy Efficiency Program	U.S.	Lighting and lighting control
		Commercial & Industrial Energy Efficiency Program	U.S.	Heating, ventilation, and air conditioning
		Commercial & Industrial Energy Efficiency Program	U.S.	Motor and motor drive
		Commercial & Industrial New Construction Program	U.S.	Lighting and lighting control
		Commercial & Industrial New Construction Program	U.S.	Heating, ventilation, and air conditioning
		Commercial & Industrial New Construction Program	U.S.	Motor and motor drive
		Commercial & Industrial Custom Rebate Program	U.S.	Other energy efficiency project
		Residential Eff. Water Heating Program (Existing Custon	U.S.	Equipment and appliances improvement or replacement
		Showerhead Distribution	U.S.	Equipment and appliances improvement or replacement
		Residential Efficient Water Heating (New Construction)	U.S.	Equipment and appliances improvement or replacement
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
Integrated Waste Services Association	1605	Waste-to-Energy - Waste Diversion	U.S.	Other waste facility
Iredell Landfill Gas, LLC	1605	Iredell County Landfil	U.S.	Landfill
J. Bradford Hollomon	1605EZ	Air Conditioner Replacement	U.S.	Heating, ventilation, and air conditioning
J.M. Gilmer and Company, Inc.	1605	Smith Place Tract Afforestation Project	U.S.	Afforestation
		Flatwoods Tract Afforestation Project	U.S.	Afforestation
		Smith Place Short Rotation Woody Crop Project	U.S.	Woody biomass production and other agroforestry
		River Road Afforestation Project	U.S.	Afforestation
JEA	1605EZ	Fuel Switching - Natural Gas	U.S.	Fuel switching
		Fuel Switching - Landfill Gas	U.S.	Fuel switching
		Photovoltaic Systems	U.S.	Increase in low-emitting capacity
		Biodiesel	U.S.	Operation of alternative fuel vehicles (AFVs)
		Urban Forestry	U.S.	Urban Forestry (sequestration only)
Jim Walter Resources, Inc.	1605	Horizontal Degasification Program	U.S.	Production coal mines, underground, longwall
		Gobwell Degasification Program	U.S.	Production coal mines, underground, longwall
		Standard Degasification Well Program	U.S.	Production coal mines, underground, longwall
		Nitrogen Rejection Plant Program (LQG)	U.S.	Processing
Johnson & Johnson	1605	Building Shell	U.S.	Building shell improvement
		Process Improvements	U.S.	Other energy efficiency project
		HVAC	U.S.	Heating, ventilation, and air conditioning
		Installation of Timer Controls and Shutdowns	U.S.	Load control
		Fuel Switching	U.S.	Fuel switching
		Motor & Motor Drives	U.S.	Motor and motor drive
		Equipment & Appliances	U.S.	Equipment and appliances improvement or replacement
		Load Control	U.S.	Load control
		Lighting & Lighting Controls	U.S.	Lighting and lighting control
		Installation of Energy Efficient Systems	U.S.	Equipment and appliances improvement or replacement
		On-site Renewable Energy - Solar	U.S.	Other electricity generation, transmission, and distribution projects/activities
Kansas City Power & Light Company	1605	Improve heat rate	U.S.	Heat rate or other efficiency improvement
		Nuclear Unit Uprate	U.S.	Increase in low-emitting capacity
		EPA's Green Lights	U.S.	Lighting and lighting control
		Coal Fly Ash Recycling	U.S.	Coal ash reuse
		New Transmission Line & Reconductoring	U.S.	Reconductoring
		New Transmission Line & Reconductoring	U.S.	Distribution voltage upgrade
		New Transmission Line & Reconductoring	U.S.	Other transmission & distribution improvements
		Aluminum Coal Cars	U.S.	Use of more efficient vehicle components (e.g. tires)
		Street Light Upgrade	U.S.	Lighting and lighting control
		DSM - AC upgrade	U.S.	Equipment and appliances improvement or replacement
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		ENVIROTECH Fund	U.S.	Research and development programs
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
Klickitat County Public Utility District No. 1	1605	H.W. Hill Landfill Gas Power Plant	U.S.	Landfill
Landfill Energy Systems	1605	Riverview	U.S.	Landfill
		I-95 Phase I	U.S.	Landfill
		I-95 Phase II	U.S.	Landfill
		Adrian	U.S.	Landfill
		MRPC	U.S.	Landfill
		MRPC Flare	U.S.	Landfill
		Ann Arbor	U.S.	Landfill
		Pine Tree	U.S.	Landfill
		Carleton Farms	U.S.	Landfill
		Salem	U.S.	Landfill
		Sumpter	U.S.	Landfill
		Wichita	U.S.	Landfill
		Salem Flare	U.S.	Landfill
		Sunshine Canyon	U.S.	Landfill
Lehigh Cement Co. (fmrly Lehigh Portland Cement Co	1605	Project 1: Plant Shutdown	U.S.	Other energy efficiency project
		Project 2: Waste Tire Burning	U.S.	Other energy efficiency project
		Project 3: Waste Tire Burning	U.S.	Fuel switching
		Project 3: Waste Tire Burning	U.S.	Other energy efficiency project
		Project 4: Plant Modernization	U.S.	Equipment and appliances improvement or replacement
		Project 4: Plant Modernization	U.S.	Lighting and lighting control
		Project 4: Plant Modernization	U.S.	Load control
		Project 4: Plant Modernization	U.S.	Heating, ventilation, and air conditioning
		Project 4: Plant Modernization	U.S.	Building shell improvement
		Project 4: Plant Modernization	U.S.	Motor and motor drive
		Project 4: Plant Modernization	U.S.	Fuel switching
		Project 5: Lighting retrofit	U.S.	Lighting and lighting control
		Project 6: Motor retrofit	U.S.	Motor and motor drive
		Project 7. Waste Oil Burning	U.S.	Other energy efficiency project
		Project 8. Waste Tire Burning	U.S.	Other energy efficiency project
Lehigh Cement Co. (formerly Calaveras Cement Co.)	1605	Project 1. Plant Modernization	U.S.	Equipment and appliances improvement or replacement
		Project 1. Plant Modernization	U.S.	Lighting and lighting control
		Project 1. Plant Modernization	U.S.	Load control
		Project 1. Plant Modernization	U.S.	Heating, ventilation, and air conditioning
		Project 1. Plant Modernization	U.S.	Building shell improvement
		Project 1. Plant Modernization	U.S.	Motor and motor drive
		Project 1. Plant Modernization	U.S.	Fuel switching
		Project 2. Waste Tire & Rice Hull Burning	U.S.	Other energy efficiency project
LFG Energy, Inc.	1605	LFG Energy Upgrade Facility	U.S.	Landfill
		LFG Energy - Phases I & II	U.S.	Landfill
Los Angeles Department of Water and Power	1605	Electric Vehicles	U.S.	Operation of alternative fuel vehicles (AFVs)
		LADWP Rideshare Program	U.S.	Demand Modification: Carpooling/Vanpooling
		Energy Efficient Transformers	U.S.	High-efficiency transformers
		Mountain Reforestation Project	U.S.	Reforestation
		Solar Power	U.S.	Increase in low-emitting capacity
		High Efficiency Clothes Washers	U.S.	Equipment and appliances improvement or replacement
		HVAC Replacement Program	U.S.	Heating, ventilation, and air conditioning
		Refrigeration Tune-Up Program	U.S.	Equipment and appliances improvement or replacement
		Commercial Lighting Program	U.S.	Lighting and lighting control
		Refrigerator Replacement Program	U.S.	Equipment and appliances improvement or replacement
		NBRS ("Neighborhood Bill Reduction Service") Program	U.S.	Equipment and appliances improvement or replacement
		NBRS ("Neighborhood Bill Reduction Service") Program	U.S.	Lighting and lighting control
		JFB Lighting Retrofit	U.S.	Lighting and lighting control
		Cool Schools Urban Forestry Project	U.S.	Urban Forestry (sequestration only)
		Cool Schools Urban Forestry - Energy Efficiency Effects	U.S.	Urban forestry (energy effects only)
		Fuel Switching (Fuel Oil #6 to Natural Gas)	U.S.	Fuel switching
		Scattergood - Digester Gas Displacement of Natural Gas	U.S.	Wastewater treatment
		HVAC Tune-up	U.S.	Heating, ventilation, and air conditioning
		Chiller Replacement / Efficiency Program	U.S.	Equipment and appliances improvement or replacement
		Water Conservation Program	U.S.	Other energy efficiency project
		Energy Star Office Equipment	U.S.	Equipment and appliances improvement or replacement
		LADWP Recycling Program	U.S.	Materials recycling/reuse
		Reflective Window Film Rebate Program	U.S.	Load control
		Reflective Window Film Rebate Program	U.S.	Building shell improvement
		Trees for a Green LA	U.S.	Urban Forestry (sequestration only)
		Trees For a Green LA Urban Forestry - Energy Efficiency	U.S.	Urban forestry (energy effects only)
		Cool Roofs Program	U.S.	Building shell improvement
		Consumer Rebate Program	U.S.	Equipment and appliances improvement or replacement
		Consumer Rebate Program	U.S.	Lighting and lighting control
		Consumer Rebate Program	U.S.	Heating, ventilation, and air conditioning
		Consumer Rebate Program	U.S.	Building shell improvement
Lower Colorado River Authority	1605	Residential & Commercial DSM Program	U.S.	Lighting and lighting control
		Residential & Commercial DSM Program	U.S.	Heating, ventilation, and air conditioning
		Residential & Commercial DSM Program	U.S.	Building shell improvement
		Coal Combustion By-Product Recycling	U.S.	Coal ash reuse
		Wind Power Project	U.S.	Increase in low-emitting capacity
		Hydroelectric Dam Modernization	U.S.	Availability improvement
		Hydroelectric Dam Modernization	U.S.	Increase in low-emitting capacity
		Supply-Side Efficiency Improvements	U.S.	Heat rate or other efficiency improvement
		Neural-Network Technology	U.S.	Heat rate or other efficiency improvement
Lucent Technologies Inc.	1605	ME - #1	U.S.	Equipment and appliances improvement or replacement
		ME - #2	U.S.	Equipment and appliances improvement or replacement
		ME - #3	U.S.	Equipment and appliances improvement or replacement
		ME - #4	U.S.	Equipment and appliances improvement or replacement
		ME - #4	U.S.	Heating, ventilation, and air conditioning
		ME - #5	U.S.	Equipment and appliances improvement or replacement
		ME - #5	U.S.	Heating, ventilation, and air conditioning
		ME - #6	U.S.	Heating, ventilation, and air conditioning
		ME - #7	U.S.	Heating, ventilation, and air conditioning
		ME - #8	U.S.	Equipment and appliances improvement or replacement
		ONG - #1	U.S.	Heating, ventilation, and air conditioning

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		ONG - #2	U.S.	Heating, ventilation, and air conditioning
		LRE #1	U.S.	Heating, ventilation, and air conditioning
		OFS - #1	U.S.	Heating, ventilation, and air conditioning
		OFS - #2	U.S.	Equipment and appliances improvement or replacement
		OFS - #2	U.S.	Heating, ventilation, and air conditioning
		OFS - #3	U.S.	Heating, ventilation, and air conditioning
		OFS - #4	U.S.	Equipment and appliances improvement or replacement
		WNG - #1	U.S.	Building shell improvement
		WNG - #2	U.S.	Lighting and lighting control
		WNG - #3	U.S.	Equipment and appliances improvement or replacement
		WNG - #4	U.S.	Landfill
		LU - #1 (US only)	U.S.	Materials recycling/reuse
		LU - #2 (International)	Foreign	Materials recycling/reuse
		OFS - Addition of VDFs	U.S.	Heating, ventilation, and air conditioning
		OFS - Light Timer	U.S.	Lighting and lighting control
		OFS - Light Switch	U.S.	Lighting and lighting control
		OFS - Eliminate fan	U.S.	Equipment and appliances improvement or replacement
		Replacement of TCE in Circuit Board Cleaning Operatior	U.S.	Substitution
		Replacement of TCE in Circuit Board Cleaning Operatior	U.S.	Emission avoidance
Lynchburg Gas Producers, LLC	1605	Lynchburg Landfill	U.S.	Landfill
Madison County Depart. of Solid Waste & Sanitation	1605	Landfill Gas Recovery & Flaring	U.S.	Landfill
		Refrigerant Recovery	U.S.	Reclamation: Recycling
		Recycling	U.S.	Materials recycling/reuse
Mead Johnson Nutls/Bristol-Meyers Squibb	1605	Coal-Fired Boilers Replaced with Natl Gas/Oil Fired Boile	U.S.	Fuel switching
		Compressed Air System Renovated & Leak Survey/Repa	U.S.	Equipment and appliances improvement or replacement
		Compressed Air System Renovated & Leak Survey/Repa	U.S.	Load control
Mecklenburg Electric Cooperative	1605	System Line Conversion and Reconductoring	U.S.	High-efficiency transformers
		System Line Conversion and Reconductoring	U.S.	Reconductoring
		System Line Conversion and Reconductoring	U.S.	Distribution voltage upgrade
Michigan CAT	1605	Lower Potomac	U.S.	Landfill
		Sacramento	U.S.	Landfill
Middlesex Generating Company, LLC	1605	MCUA Landfill Gas Utilization Project - MCUA Landfill	U.S.	Landfill
		MCUA Landfill Gas Utilization Project - ILR Landfill	U.S.	Landfill
		MCUA Landfill Gas Utilization Project - Edison Landfill	U.S.	Landfill
Minnesota Power	1605	Heat Rate Improvements, Boswell Energy Center	U.S.	Heat rate or other efficiency improvement
		Expanded Generation from Existing Hydro Electric Resou	U.S.	Increase in low-emitting capacity
		Expanded Generation from Existing Hydro Electric Resou	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Demand Side Mgmt., Conservation and Efficiency Impro	U.S.	Equipment and appliances improvement or replacement
		Demand Side Mgmt., Conservation and Efficiency Impro	U.S.	Lighting and lighting control
		Demand Side Mgmt., Conservation and Efficiency Impro	U.S.	Load control
		Demand Side Mgmt., Conservation and Efficiency Impro	U.S.	Heating, ventilation, and air conditioning
		Demand Side Mgmt., Conservation and Efficiency Impro	U.S.	Building shell improvement
		Demand Side Mgmt., Conservation and Efficiency Impro	U.S.	Motor and motor drive
		Demand Side Mgmt., Conservation and Efficiency Impro	U.S.	Fuel switching
		Expanded Use of Renewable Biomass (wood waste)	U.S.	Fuel switching
		Short Rotation Woody Crop Establishment	U.S.	Afforestation
		Short Rotation Woody Crop Establishment	U.S.	Woody biomass production and other agroforestry
		Waste Paper Recycling Development	U.S.	Materials recycling/reuse
		Electricity Substation, SF6 Breaker Replacement	U.S.	Reclamation: Recycling
		Mud Lake Substation - Reduced Transmission Losses	U.S.	Heat rate or other efficiency improvement
		Mud Lake Substation - Reduced Transmission Losses	U.S.	Other transmission & distribution improvements
		Wind Sense Wind Energy Program	U.S.	Zero/Low Emission Power Purchases
Minnesota Resource Recovery Association (MRRA)	1605EZ	Paper Recycling - CO2	U.S.	Materials recycling/reuse
		Paper Recycling - Methane	U.S.	Materials recycling/reuse
		MSW Incineration	U.S.	Other waste treatment and disposal activities reducing emissions of methane
Model City Energy, LLC	1605	Model City Energy Facility	U.S.	Landfill
Montauk Energy Capital	1605	Rumpke Landfill Gas Recovery Plant	U.S.	Landfill
		Davis Street Landfill Gas Recovery Plant	U.S.	Landfill
		Fresh Kills Landfill Gas Recovery Plant	U.S.	Landfill
		Kearny Landfill Gas Recovery Plant	U.S.	Landfill
		McCarty Road Landfill Gas Recovery Plant	U.S.	Landfill
		Mountaingate Landfill Gas Recovery Plant	U.S.	Landfill
		Olinda Landfill Gas Recovery Plant	U.S.	Landfill
		Bowerman Landfill Gas Recovery Plant	U.S.	Landfill
		Monmouth Landfill Gas Recovery Plant	U.S.	Landfill
		Edison (COP, LLC)	U.S.	Landfill
		ILR (COP, LLC)	U.S.	Landfill
		MCUA (COP, LLC)	U.S.	Landfill
		Chautauqua (COP, LLC)	U.S.	Landfill
		Oaks (COP, LLC)	U.S.	Landfill
		Colebrookdale (COP, LLC)	U.S.	Landfill
		El Dorado (COP, LLC)	U.S.	Landfill
		Attleboro (MASS Energy, LLC)	U.S.	Landfill
		Glacier Ridge (Glacier Ridge LFG, LLC)	U.S.	Landfill
		Roosevelt (Roosevelt Landfill Gas Recovery, LLC)	U.S.	Landfill
		Virginia Beach (VB LFG, LLC)	U.S.	Landfill
		Zion (Zion LFG, LLC)	U.S.	Landfill
		Dade County (Monteco)	U.S.	Landfill
		Rosenberg (Monteco)	U.S.	Landfill
		Nelson Gardens (Monteco)	U.S.	Landfill
		McCommas Bluff (Monteco)	U.S.	Landfill
		North Country (CRMC Bethlehem, LLC)	U.S.	Landfill
		Pigeon Point LFG, Inc (COP, LLC)	U.S.	Landfill
Municipal Electric Auth of Georgia (MEAG Power)	1605	Nuclear Generation Utilization	U.S.	Availability improvement
		Nuclear Generation Utilization	U.S.	Increase in low-emitting capacity
Nashville Electric Service	1605EZ	Distribution Voltage Upgrade	U.S.	Distribution voltage upgrade
		High-efficiency transformers	U.S.	High-efficiency transformers
		Ongoing Urban Forestry (Tree Planting)	U.S.	Urban Forestry (sequestration only)
National By-Products Inc	1605	Landfill gas-boiler fuel	U.S.	Landfill
National Grid USA	1605	Nuclear Generation Performance Improvements	U.S.	Availability improvement
		Amorphous Metal Core Transformers	U.S.	High-efficiency transformers
		Installation and Operation of Wind Turbines	U.S.	Increase in low-emitting capacity
		Installation & Operation of Photovoltaic Energy Systems	U.S.	Increase in low-emitting capacity
		Energy Efficiency and Conservation Programs (DSM) - N	U.S.	Equipment and appliances improvement or replacement
		Energy Efficiency and Conservation Programs (DSM) - N	U.S.	Lighting and lighting control
		Energy Efficiency and Conservation Programs (DSM) - N	U.S.	Load control
		Energy Efficiency and Conservation Programs (DSM) - N	U.S.	Heating, ventilation, and air conditioning
		Energy Efficiency and Conservation Programs (DSM) - N	U.S.	Building shell improvement
		Energy Efficiency and Conservation Programs (DSM) - N	U.S.	Motor and motor drive

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		Alternative Fuel Vehicles	U.S.	Operation of alternative fuel vehicles (AFVs)
		Identify & Rehabilitate Leaky Gas Distribution Pipe	U.S.	Natural gas distribution
		Refrigerator Roundup	U.S.	Reclamation: Recycling
		Coal Ash Utilization	U.S.	Coal ash reuse
		Investment Recovery Program (Recycling)	U.S.	Materials recycling/reuse
		Nuclear Generation Capacity Improvements	U.S.	Increase in low-emitting capacity
		Partial Conversion of Oil-Fired Plant to Natural Gas	U.S.	Fuel switching
		Cowley Ridge Windplant	Foreign	Increase in low-emitting capacity
		SF6 Emission Reductions - New York	U.S.	Emission avoidance
		Distribution Voltage Upgrade	U.S.	Distribution voltage upgrade
		Distribution Reconductoring	U.S.	Reconductoring
		Photovoltaic - New England	U.S.	Increase in low-emitting capacity
		Transmission Reconductoring	U.S.	Reconductoring
		Demand-Side Management (DSM) Programs - New Eng	U.S.	Equipment and appliances improvement or replacement
		Demand-Side Management (DSM) Programs - New Eng	U.S.	Lighting and lighting control
		Demand-Side Management (DSM) Programs - New Eng	U.S.	Load control
		Demand-Side Management (DSM) Programs - New Eng	U.S.	Heating, ventilation, and air conditioning
		Demand-Side Management (DSM) Programs - New Eng	U.S.	Building shell improvement
		Demand-Side Management (DSM) Programs - New Eng	U.S.	Motor and motor drive
		Carpool	U.S.	Demand Modification: Carpooling/Vanpooling
		Electric Vehicles	U.S.	Operation of alternative fuel vehicles (AFVs)
		Appliance Removal Program, Residential DSM Program	U.S.	Reclamation: Recycling
		Appliance Removal Program, Residential DSM Program	U.S.	Reclamation: Destruction
		SF6 Emission Reductions - New England	U.S.	Emission avoidance
Natural Power, Inc.	1605	Wilder's Grove Landfill Gas Project	U.S.	Landfill
NC Muni Landfill Gas Partners, LLC	1605	Henderson County Landfill	U.S.	Landfill
Nebraska Public Power District	1605EZ	Materials Recycling	U.S.	Materials recycling/reuse
		Coal Ash Reuse	U.S.	Coal ash reuse
		CH4 Reductions from Material Recycling	U.S.	Materials recycling/reuse
		Plant Efficiency Improvements	U.S.	General generation, transmission & distribution projects
		1994-1997 Transformer Changeouts	U.S.	High-efficiency transformers
		1994-1996 Distribution Improvements	U.S.	General transmission and distribution
		Wind Turbines	U.S.	Increase in low-emitting capacity
		Nuclear Plant Improved Utilization	U.S.	Availability improvement
		SF6 Gas Circuit Breaker Leak Detection and Repair	U.S.	Halogenated Substances - Emission Avoidance
		Electric Heat Pump Program, 1998-2002	U.S.	Heating, ventilation, and air conditioning
		Tree planting	U.S.	General Tree Planting
		Tree planting	U.S.	General Tree Planting
NEO Corporation	1605	Acme Landfill Gas Utilization Project	U.S.	Landfill
		Albany Landfill Gas Utilization Project	U.S.	Landfill
		Balefill Landfill Gas Utilization Project	U.S.	Landfill
		Corona Landfill Gas Utilization Project	U.S.	Landfill
		Cuyahoga Landfill Gas Utilization Project	U.S.	Landfill
		Denver Landfill Gas Utilization Project	U.S.	Landfill
		Edgeboro Landfill Gas Utilization Project	U.S.	Landfill
		Fitchburg Landfill Gas Utilization Project	U.S.	Landfill
		Flying Cloud Landfill Gas Utilization Project	U.S.	Landfill
		Fort Smith Landfill Gas Utilization Project	U.S.	Landfill
		Hartford Landfill Gas Utilization Project	U.S.	Landfill
		Kingsland Landfill Gas Utilization Project	U.S.	Landfill
		Kraemer Landfill Gas Utilization Project	U.S.	Landfill
		Lopez Landfill Gas Utilization Project	U.S.	Landfill
		Lowell Landfill Gas Utilization Project	U.S.	Landfill
		Mazzaro Landfill Gas Utilization Project	U.S.	Landfill
		Phoenix Landfill Gas Utilization Project	U.S.	Landfill
		Prima Deshecha Landfill Gas Utilization Project	U.S.	Landfill
		Prince William Landfill Gas Utilization Project	U.S.	Landfill
		Riverside Landfill Gas Utilization Project	U.S.	Landfill
		San Bernadino Landfill Gas Utilization Project	U.S.	Landfill
		San Diego Landfill Gas Utilization Project	U.S.	Landfill
		SKB Landfill Gas Utilization Project	U.S.	Landfill
		Spokane Landfill Gas Utilization Project	U.S.	Landfill
		Tacoma Landfill Gas Utilization Project	U.S.	Landfill
		Tajiguas Landfill Gas Utilization Project	U.S.	Landfill
		Taunton Landfill Gas Utilization Project	U.S.	Landfill
		Visalia Landfill Gas Utilization Project	U.S.	Landfill
		Volusia Landfill Gas Utilization Project	U.S.	Landfill
		West Covina Landfill Gas Utilization Project	U.S.	Landfill
		Woodville Landfill Gas Utilization Project	U.S.	Landfill
		Yolo Landfill Gas Utilization Project	U.S.	Landfill
		Four Hills Landfill Gas Utilization Project	U.S.	Landfill
		Bordeaux Landfill Gas Utilization Project	U.S.	Landfill
New Jersey Meadowlands Commission	1605	NJMC 1-C Landfill	U.S.	Landfill
		NJMC 1-A Landfill	U.S.	Landfill
		MSLA 1-D Landfill	U.S.	Landfill
		NJMC Balefill	U.S.	Landfill
		Kingsland Landfill	U.S.	Landfill
Newton Landfill Gas, LLC	1605	Newton Landfill	U.S.	Landfill
NiSource/NIPSCO	1605	Landfill Methane Recovery - Deercroft	U.S.	Landfill
		Low Loss Transformers	U.S.	High-efficiency transformers
		Capacitor Additions	U.S.	Other transmission & distribution improvements
		Electric Vehicles	U.S.	Operation of alternative fuel vehicles (AFVs)
		Natural Gas Vehicles	U.S.	Marketing/manufacturing of alternative fuel vehicles (AFVs)
		Natural Gas Vehicles	U.S.	Operation of alternative fuel vehicles (AFVs)
		Natural Gas Vehicles	U.S.	Infrastructure improvement
		Employee Commute Options	U.S.	Demand Modification: Carpooling/Vanpooling
		Landfill Methane Recovery-Prairie View	U.S.	Landfill
		North Trenton Pipeline Replacement	U.S.	Natural gas transmission
		North Trenton Pipeline Replacement	U.S.	Natural gas distribution
		Rural Tree Planting	U.S.	Afforestation
		Urban Tree Planting	U.S.	Urban Forestry (sequestration only)
		Ozone Depleting Chemicals	U.S.	Reclamation: Recycling
		Ozone Depleting Chemicals	U.S.	Substitution
		Coal Combustion Byproduct Utilization	U.S.	Coal ash reuse
		Recycling program	U.S.	Materials recycling/reuse
		Employee Training	U.S.	Education and training programs
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		NG Star - NIPSCO	U.S.	Natural gas transmission
		NG Star - NIPSCO	U.S.	Natural gas distribution
		Landfill Methane Recovery - Wheeler	U.S.	Landfill

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		SF6 Reductions	U.S.	Emission avoidance
		Biomass Initiative	U.S.	Fuel switching
		NG Star Bay State Gas	U.S.	Natural gas distribution
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		NG Star - Columbia Gulf Transmission Company	U.S.	Natural gas transmission
		NG Star - Columbia Gas Transmission Company	U.S.	Natural gas transmission
		NG Star - Columbia Gas of Pennsylvania and Maryland	U.S.	Natural gas distribution
		NG Star - Columbia Gas of Virginia	U.S.	Natural gas distribution
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		NG Star - Columbia Gas of Ohio	U.S.	Natural gas distribution
		NG Star - Columbia Gas of Kentucky	U.S.	Natural gas distribution
Noranda Aluminum Inc.	1605	PFC Emission Reduction via Reductions in Anode Effect	U.S.	Emission avoidance
North American Carbon, Inc.	1605	Glendale Hydroelectric Project	U.S.	Increase in low-emitting capacity
		Lower Saranac Hydroelectric Project	U.S.	Increase in low-emitting capacity
		Star Lake Hydroelectric Project	Foreign	Increase in low-emitting capacity
		KMS Peel Energy Recovery Project	Foreign	Other waste facility
North Carolina Biomass Partners	1605EZ	Biomass Waste to Energy	U.S.	Fuel switching
North Carolina Electric Membership Corporation	1605EZ	Switch Away from Fossil Fuel Generated Power Purchas	U.S.	Zero/Low Emission Power Purchases
Northern Neck Electric Cooperative	1605	System Line Conversion and Reconductoring	U.S.	High-efficiency transformers
		System Line Conversion and Reconductoring	U.S.	Reconductoring
		Demand-Side Management Programs	U.S.	Load control
Northern Virginia Electric Cooperative	1605	System Line Conversions and Reconductoring	U.S.	High-efficiency transformers
		System Line Conversions and Reconductoring	U.S.	Reconductoring
		System Line Conversions and Reconductoring	U.S.	Distribution voltage upgrade
		Demand-side Management Load Control Programs	U.S.	Heating, ventilation, and air conditioning
Northwest Fuel Development, Inc.	1605	Utilization of Coal Mine Gas	U.S.	Production coal mines, underground, longwall
		Utilization of Coal Mine Gas	U.S.	Production coal mines, underground, other
Ocean County Landfill Corporation	1605	Flare Control of Landfill Gas	U.S.	Landfill
		Supplying Landfill Gas for Energy Recovery	U.S.	Landfill
Old Dominion Electric Cooperative	1605	Green Lights	U.S.	Lighting and lighting control
		Clover Power Station - Visual Screening	U.S.	Urban Forestry (sequestration only)
Omaha Public Power District	1605EZ	Recycling Fly Ash	U.S.	Coal ash reuse
		Recycling Programs	U.S.	Materials recycling/reuse
		Coal Heat Rate Improvement	U.S.	Heat rate or other efficiency improvement
		T&D Capacitor Installations	U.S.	General transmission and distribution
		Nuclear Capacity Factor Improvement	U.S.	Increase in low-emitting capacity
		Heat Pump Program (RECP)	U.S.	Heating, ventilation, and air conditioning
		Street Lighting Replacement	U.S.	Lighting and lighting control
		Commercial & Industrial Audits	U.S.	General energy use
		Right Lights	U.S.	Lighting and lighting control
		Tree Planting	U.S.	Urban Forestry (sequestration only)
Orlando Utilities Commission (OUC)	1605EZ	Landfill Gas to Energy	U.S.	Fuel switching
PacifiCorp	1605	Salt Lake City Urban Forestry Project	U.S.	Urban Forestry (sequestration only)
		Super Good Cents	U.S.	Building shell improvement
		Manufactured Housing Acquisition Program (MAP)	U.S.	Building shell improvement
		Low Income Weatherization and Conservation Programs	U.S.	Building shell improvement
		Low Income Weatherization and Conservation Programs	U.S.	Other energy efficiency project
		Residential Weatherization Programs	U.S.	Building shell improvement
		Home Comfort	U.S.	Lighting and lighting control
		Home Comfort	U.S.	Building shell improvement
		Water Heater / Solar	U.S.	Equipment and appliances improvement or replacement
		Hassle-Free Program	U.S.	Equipment and appliances improvement or replacement
		Showerhead Program	U.S.	Equipment and appliances improvement or replacement
		Utah Water Smart Kits (Schedule 5)	U.S.	Equipment and appliances improvement or replacement
		Super Efficiency Refrigerator Program (SERP)	U.S.	Equipment and appliances improvement or replacement
		H_PRO: High Efficiency Heat Pumps	U.S.	Heating, ventilation, and air conditioning
		Energy FinAnswer	U.S.	Equipment and appliances improvement or replacement
		Energy FinAnswer	U.S.	Lighting and lighting control
		Energy FinAnswer	U.S.	Load control
		Energy FinAnswer	U.S.	Heating, ventilation, and air conditioning
		Energy FinAnswer	U.S.	Building shell improvement
		Energy FinAnswer Prescriptive	U.S.	Lighting and lighting control
		Energy FinAnswer Prescriptive	U.S.	Load control
		Energy FinAnswer Prescriptive	U.S.	Heating, ventilation, and air conditioning
		Energy FinAnswer Prescriptive	U.S.	Motor and motor drive
		Energy FinAnswer Retrofit	U.S.	Lighting and lighting control
		Energy FinAnswer Retrofit	U.S.	Load control
		Energy FinAnswer Retrofit	U.S.	Heating, ventilation, and air conditioning
		Energy FinAnswer Retrofit	U.S.	Building shell improvement
		Industrial Energy FinAnswer	U.S.	Equipment and appliances improvement or replacement
		Industrial Energy FinAnswer	U.S.	Lighting and lighting control
		Industrial Energy FinAnswer	U.S.	Load control
		Industrial Energy FinAnswer	U.S.	Heating, ventilation, and air conditioning
		Industrial Energy FinAnswer	U.S.	Building shell improvement
		Industrial Energy FinAnswer	U.S.	Motor and motor drive
		Major Accounts Program	U.S.	Equipment and appliances improvement or replacement
		Major Accounts Program	U.S.	Lighting and lighting control
		Major Accounts Program	U.S.	Load control
		Major Accounts Program	U.S.	Heating, ventilation, and air conditioning
		Major Accounts Program	U.S.	Building shell improvement
		Major Accounts Program	U.S.	Motor and motor drive
		Major Accounts Program	U.S.	Other energy efficiency project
		Irrigation FinAnswer Program	U.S.	Equipment and appliances improvement or replacement
		Salt Lake City Urban Forestry Project	U.S.	Load control
		Salt Lake City Urban Forestry Project	U.S.	Urban forestry (energy effects only)
		Reforestation in Eastern Washington	U.S.	Reforestation
		Reforestation of Private Lands in Oregon - Site Class III	U.S.	Afforestation
		Reforestation of Private Lands in Oregon - Site Class II	U.S.	Afforestation
		Coal Ash Recycling	U.S.	Coal ash reuse
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Residential Competitive Bid - ECONS	U.S.	Equipment and appliances improvement or replacement
		Small Commercial Retrofit	U.S.	Lighting and lighting control
		Commercial Competitive Bid - EUA/Onsite	U.S.	Lighting and lighting control

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		Competitive Bid - CES/Way	U.S.	Equipment and appliances improvement or replacement
		Competitive Bid - CES/Way	U.S.	Lighting and lighting control
		Competitive Bid - CES/Way	U.S.	Load control
		Competitive Bid - CES/Way	U.S.	Heating, ventilation, and air conditioning
		Competitive Bid - CES/Way	U.S.	Building shell improvement
		Competitive Bid - CES/Way	U.S.	Motor and motor drive
		Ethanol Production Carbon Offset Project	U.S.	Reduction of process emissions
		PacifiCorp Facility DSM	U.S.	Lighting and lighting control
		PacifiCorp Facility DSM	U.S.	Motor and motor drive
		Northwest Fuels Methane Recovery From Coal Mines	U.S.	Production coal mines, underground, longwall
		Noel Kempff Mercado Climate Action Project	Foreign	Forest preservation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restorati	U.S.	Afforestation
		Northwest Energy Efficiency Alliance (NEEA)	U.S.	Equipment and appliances improvement or replacement
		Northwest Energy Efficiency Alliance (NEEA)	U.S.	Lighting and lighting control
		Northwest Energy Efficiency Alliance (NEEA)	U.S.	Heating, ventilation, and air conditioning
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		Rio Bravo Carbon Sequestration Pilot Project (Full Share	Foreign	Forest preservation
		CFL Bulbs	U.S.	Lighting and lighting control
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restorati	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
Palmer Capital Corporation	1605	Scholl Canyon LFG Limited Partnership	U.S.	Landfill
		Central Gas Limited Partnership	U.S.	Landfill
		Raleigh Landfill Gas Corporation	U.S.	Landfill
		Brookhaven Landfill Gas Limited Partnership	U.S.	Landfill
		Portland LFG Joint Venture	U.S.	Landfill
		LKD Los Angeles L.P.	U.S.	Landfill
		Sun LFG Corporation	U.S.	Landfill
		Lebanon Landfill Gas Corporation	U.S.	Landfill
		Janes LFG Corporation	U.S.	Landfill
		Lancaster Landfill Gas Corporation	U.S.	Landfill
Peabody Holding Company, Inc.	1605	Coal Mine Methane Utilization	U.S.	Production coal mines, underground, longwall
		Coal Bed Methane Utilization	U.S.	Production coal mines, surface
PG&E Corporation	1605	Brayton Point Station Unit No. 4 Gas Conversion	U.S.	Fuel switching
		Power Purchases from Natural Gas Generation	U.S.	Increase in low-emitting capacity
		Johnston Landfill Gas to Electricity Project	U.S.	Landfill
		Turnkey Landfill Gas to Electricity Project	U.S.	Landfill
		Reduced Impact Logging Project (NEP Pilot Project)	Foreign	Modified forest management
		Coal Ash Recycling as Cement Replacement	U.S.	Coal ash reuse
		Manchester Street Repowering	U.S.	Increase in low-emitting capacity
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Brayton Point Station Units No. 1, 2, 3 Natural Gas Usag	U.S.	Fuel switching
		Nashua Landfill Gas To Electricity Project	U.S.	Landfill
		Barre Landfill Gas to Electricity Project	U.S.	Landfill
		Mississippi River Valley Bottomland Hardwood Restorati	U.S.	Afforestation
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Natural Gas Star Program - PG&E California	U.S.	Reduction of process emissions
		SF6 Emission Reduction Partnership	U.S.	Emission avoidance
		Electrical Energy Conservation Savings	U.S.	Lighting and lighting control
		Electrical Energy Conservation Savings	U.S.	Heating, ventilation, and air conditioning
		Natural Gas Energy Conservation Savings	U.S.	Heating, ventilation, and air conditioning
		Natural Gas Vehicles	U.S.	Marketing/manufacturing of alternative fuel vehicles (AFVs)
		Electric Vehicles	U.S.	Marketing/manufacturing of alternative fuel vehicles (AFVs)
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		Natural Gas Substitution for Residual Oil	U.S.	Fuel switching
		Millennium Power Partners	U.S.	Landfill
		Wind Turbines in Mountain View, CA	U.S.	Increase in low-emitting capacity
		Wind Turbines in Mountain View, CA	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Natural Gas Star Program - PG&E National Energy Grou	U.S.	Reduction of process emissions
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restorati	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		Madison Windpower	U.S.	Other electricity generation, transmission, and distribution projects/activities
Pharmacia & Upjohn Caribe Inc.	1605EZ	Thermal Oxidizer Project for VOC/HAP Destruction	U.S.	Reduction of process emissions
		Thermal Oxidizer Waste Heat Boiler	U.S.	Cogeneration and waste heat recovery
		Reuse of HVAC Condensate and Rainwater from Dikes	U.S.	Heating, ventilation, and air conditioning
		Electrical System Upgrade	U.S.	Equipment and appliances improvement or replacement
		Replacement of Condensate Station at Building M50	U.S.	Equipment and appliances improvement or replacement
		Plantwide Steam Strap Survey	U.S.	Equipment and appliances improvement or replacement
		Capital Project Review	U.S.	Equipment and appliances improvement or replacement
		Boiler #1 Thermal Efficiency Retrofit	U.S.	Oil and Natural Gas Systems: Equipment replacement and upgrade
Pitt Landfill Gas, LLC	1605	Pitt County Landfill	U.S.	Landfill
Platte River Power Authority & 4 Owner Cities	1605	Loveland Thrifty Light Project	U.S.	Lighting and lighting control
		Loveland Hydroelectric Plant	U.S.	Increase in low-emitting capacity
		Loveland Digester Gas Production and Use	U.S.	Wastewater treatment
		Loveland Recycling Program	U.S.	Materials recycling/reuse
		Longmont Efficient Lighting Projects	U.S.	Lighting and lighting control
		Longmont Wastewater Plant Waste Gas Flare	U.S.	Wastewater treatment
		Longmont Hydro Project Upgrades	U.S.	Increase in low-emitting capacity
		Longmont Distribution System Improvements	U.S.	Other transmission & distribution improvements
		Fort Collins Distribution System Improvements	U.S.	Other transmission & distribution improvements
		PRPA Heat Rate Improvements at Craig Powerplant	U.S.	Heat rate or other efficiency improvement
		Estes Park Streetlight Conversions	U.S.	Lighting and lighting control
		Estes Park Low-Loss Transformers	U.S.	High-efficiency transformers
		PRPA Wind Power Project	U.S.	Increase in low-emitting capacity
		Loveland Area Lighting Project	U.S.	Lighting and lighting control
		Estes Park Recycling Program	U.S.	Materials recycling/reuse
		Fort Collins Building Codes	U.S.	Heating, ventilation, and air conditioning
		Fort Collins Building Codes	U.S.	Building shell improvement
		Fort Collins Design Assistance	U.S.	Lighting and lighting control
		Fort Collins Design Assistance	U.S.	Load control
		Fort Collins Design Assistance	U.S.	Heating, ventilation, and air conditioning
		Fort Collins Design Assistance	U.S.	Building shell improvement

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		Fort Collins Transportation Demand Management	U.S.	Demand Modification: Carpooling/Vanpooling
		Fort Collins Transportation Demand Management	U.S.	Demand Modification: Use of mass transit
		Fort Collins Transportation Demand Management	U.S.	Demand Modification: Telecommuting
		Fort Collins Transportation Demand Management	U.S.	Driver/operator training
		Fort Collins LED Traffic Lights	U.S.	Lighting and lighting control
		Fort Collins City Lighting Upgrades	U.S.	Lighting and lighting control
		Fort Collins Zero Interest Loan for Conservation Help	U.S.	Equipment and appliances improvement or replacement
		Fort Collins Zero Interest Loan for Conservation Help	U.S.	Heating, ventilation, and air conditioning
		Fort Collins Zero Interest Loan for Conservation Help	U.S.	Building shell improvement
		Fort Collins Wastewater Methane Flare	U.S.	Wastewater treatment
		Fort Collins Recycling Program	U.S.	Materials recycling/reuse
		PRPA Photovoltaic Project	U.S.	Increase in low-emitting capacity
		PRPA Paper Recycling Program	U.S.	Materials recycling/reuse
		Longmont LED Traffic Lights	U.S.	Lighting and lighting control
		Platte River Cooling Rebate Program	U.S.	Heating, ventilation, and air conditioning
Portland General Electric Co.	1605	T&D: Power Factor Correction Capacitors	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Oak Grove Turbine Runner Replacements - 1991 - Units	U.S.	Heat rate or other efficiency improvement
		Oak Grove Turbine Runner Replacements - 1991 - Units	U.S.	Increase in low-emitting capacity
		Sullivan turbine rebuilds	U.S.	Heat rate or other efficiency improvement
		Sullivan turbine rebuilds	U.S.	Increase in low-emitting capacity
		Bull Run Turbine Runner Replacements	U.S.	Heat rate or other efficiency improvement
		Bull Run Turbine Runner Replacements	U.S.	Increase in low-emitting capacity
		Faraday Units 4&5 1994	U.S.	Heat rate or other efficiency improvement
		Faraday Units 4&5 1994	U.S.	Increase in low-emitting capacity
		Beaver Efficiency Improvements	U.S.	Heat rate or other efficiency improvement
		Beaver Efficiency Improvements	U.S.	Increase in low-emitting capacity
		Boardman Efficiency Improvements	U.S.	Heat rate or other efficiency improvement
		Demand-Side Management Projects	U.S.	Equipment and appliances improvement or replacement
		Demand-Side Management Projects	U.S.	Lighting and lighting control
		Demand-Side Management Projects	U.S.	Load control
		Demand-Side Management Projects	U.S.	Heating, ventilation, and air conditioning
		Demand-Side Management Projects	U.S.	Building shell improvement
		Demand-Side Management Projects	U.S.	Motor and motor drive
		Demand-Side Management Projects	U.S.	Fuel switching
		Natural Gas Fleet Vehicles	U.S.	Operation of alternative fuel vehicles (AFVs)
		Transformer Efficiency Improvements	U.S.	High-efficiency transformers
		1995 Colstrip Units 3&4 Ruggedizing	U.S.	Heat rate or other efficiency improvement
		Green Lights Programs	U.S.	Lighting and lighting control
		Energy Management Systems	U.S.	Equipment and appliances improvement or replacement
		Energy Management Systems	U.S.	Lighting and lighting control
		Energy Management Systems	U.S.	Heating, ventilation, and air conditioning
		Energy Management Systems	U.S.	Building shell improvement
		Electric Fleet Vehicles	U.S.	Operation of alternative fuel vehicles (AFVs)
		Gas Lawnmower Turn In Rebate	U.S.	Equipment and appliances improvement or replacement
		Gas Lawnmower Turn In Rebate	U.S.	Fuel switching
		Friends of Trees	U.S.	Urban Forestry (sequestration only)
		River Mill Efficiency Improvements	U.S.	Heat rate or other efficiency improvement
		Heat Pump Rebate	U.S.	Equipment and appliances improvement or replacement
		Heat Pump Rebate	U.S.	Heating, ventilation, and air conditioning
		Photoelectric Streetlight Controls	U.S.	Lighting and lighting control
		Vansycle Ridge Wind Generation	U.S.	Increase in low-emitting capacity
		PGE Corporate Recycling Program	U.S.	Materials recycling/reuse
		Coyote Springs Efficiency Improvements	U.S.	Heat rate or other efficiency improvement
		Building Rooftop Photovoltaic Systems	U.S.	Increase in low-emitting capacity
		Fly Ash Reuse Program	U.S.	Coal ash reuse
		North Fork Hydro Improvements	U.S.	Heat rate or other efficiency improvement
		Round Butte	U.S.	Heat rate or other efficiency improvement
		Hunt Turtle Technology	U.S.	Demand Modification: Other
		Faraday Efficiency Improvements 2002	U.S.	Heat rate or other efficiency improvement
Prince George Electric Cooperative	1605	Transmission and Dist. Efficiency Improvements	U.S.	High-efficiency transformers
		Transmission and Dist. Efficiency Improvements	U.S.	Reconductoring
		Transmission and Dist. Efficiency Improvements	U.S.	Distribution voltage upgrade
Public Service Company of New Mexico	1605	Palo Verde Generation Increase	U.S.	Availability improvement
		Heat Rate Improvements at San Juan Generating Statior	U.S.	Heat rate or other efficiency improvement
		Natural Gas Leak Surveying and Replacement	U.S.	Natural gas distribution
		CNG Vehicles	U.S.	Operation of alternative fuel vehicles (AFVs)
Public Service Enterprise Group	1605	Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Resource Recovery Coal Ash Management Program	U.S.	Coal ash reuse
		WasteWise	U.S.	Materials recycling/reuse
		WasteWise	U.S.	waste/source reduction
		WasteWise	U.S.	Education and training programs
		Employee Trip Reduction	U.S.	Demand Modification: Carpooling/Vanpooling
		Employee Trip Reduction	U.S.	Demand Modification: Use of mass transit
		Demand Side Management	U.S.	Equipment and appliances improvement or replacement
		Demand Side Management	U.S.	Lighting and lighting control
		Demand Side Management	U.S.	Load control
		Demand Side Management	U.S.	Heating, ventilation, and air conditioning
		Demand Side Management	U.S.	Motor and motor drive
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		Hydro Projects - United States	U.S.	Zero/Low Emission Power Purchases
		Municipal Solid Waste Generators	U.S.	Landfill
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		Electric Generation from Landfill Gas	U.S.	Zero/Low Emission Power Purchases
Public Utility District No. 1 of Snohomish County	1605	Transmission Networking and Reconductoring	U.S.	Reconductoring
		Transmission Networking and Reconductoring	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Conservation Voltage Reduction	U.S.	Other transmission & distribution improvements
		Demand Side Management	U.S.	Equipment and appliances improvement or replacement
		Demand Side Management	U.S.	Lighting and lighting control
		Demand Side Management	U.S.	Heating, ventilation, and air conditioning
		Demand Side Management	U.S.	Building shell improvement
		Demand Side Management	U.S.	Motor and motor drive

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		Commute Reduction Program	U.S.	Demand Modification: Carpooling/Vanpooling
		Commute Reduction Program	U.S.	Demand Modification: Use of mass transit
		Commute Reduction Program	U.S.	Demand Modification: Telecommuting
		Commute Reduction Program	U.S.	Demand Modification: Other
		Bicycles for Meter Readers	U.S.	Demand Modification: Other
		We-cycle Office Wastepaper (WOW) Program	U.S.	Materials recycling/reuse
		Scrap Metals Recycling	U.S.	Materials recycling/reuse
		Electric Car Race	U.S.	Other transportation and off-road vehicle projects/activities
		Battery and Solar Powered Boat Races	U.S.	Marketing/manufacturing of alternative fuel vehicles (AFVs)
Rappahannock Electric Cooperative	1605	System Line Conversions and Reconductoring	U.S.	High-efficiency transformers
		System Line Conversions and Reconductoring	U.S.	Reconductoring
		System Line Conversions and Reconductoring	U.S.	Distribution voltage upgrade
		System Line Conversions and Reconductoring	U.S.	Other transmission & distribution improvements
		Tree Planting	U.S.	Urban Forestry (sequestration only)
		Demand-Side Management Load Control Programs	U.S.	Equipment and appliances improvement or replacement
		Demand-Side Management Load Control Programs	U.S.	Load control
Rolls-Royce Corporation	1605	Boiler Conversion from Coal to Landfill/Natural Gas	U.S.	Fuel switching
		Peak Saving Project	U.S.	Load control
		Use of Landfill Gas	U.S.	Landfill
Sacramento Municipal Utility District	1605	Energy Efficiency Programs	U.S.	Equipment and appliances improvement or replacement
		Energy Efficiency Programs	U.S.	Lighting and lighting control
		Energy Efficiency Programs	U.S.	Heating, ventilation, and air conditioning
		Energy Efficiency Programs	U.S.	Building shell improvement
		Energy Efficiency Programs	U.S.	Motor and motor drive
		Shade Tree Program	U.S.	Urban Forestry (sequestration only)
		Employee Commute Program	U.S.	Demand Modification: Carpooling/Vanpooling
		Employee Commute Program	U.S.	Demand Modification: Use of mass transit
		Employee Commute Program	U.S.	Demand Modification: Other
		Meter Reading - Bicycles	U.S.	Demand Modification: Other
		Ride Electric	U.S.	Operation of alternative fuel vehicles (AFVs)
		PV Pioneer	U.S.	Increase in low-emitting capacity
		Sulfur Hexaflouride Inventory	U.S.	Emission avoidance
Salt River Project	1605EZ	Fly Ash Sales	U.S.	Coal ash reuse
		Recycling (CO2 Reduction)	U.S.	Materials recycling/reuse
		Recycling (CH4 Reductions)	U.S.	Materials recycling/reuse
		Cooperative Photovoltaic Power Plants	U.S.	Increase in low-emitting capacity
		Heat Rate Improvements	U.S.	Heat rate or other efficiency improvement
		Palo Verde Nuclear Station Capacity Increases	U.S.	Increase in low-emitting capacity
		Palo Verde Nuclear Station Capacity Factor Increase	U.S.	Increase in low-emitting capacity
		Replace Gasoline Lawnmowers with Electric Lawnmowe	U.S.	Fuel switching
		Home with PV System for Demonstration (Chandler Hou	U.S.	Fuel switching
		South Mountain CC Solar	U.S.	Fuel switching
		AC Photovoltaic Residential System	U.S.	Fuel switching
		Scottsdale CC PV System	U.S.	Fuel switching
		SunDish solar dish/Stirling system (operation on sun)	U.S.	Fuel switching
		Cesar Chavez HS Photovoltaic System	U.S.	Fuel switching
		Calex Homes PV Systems	U.S.	Fuel switching
		Carpooling/Vapooling	U.S.	Demand Modification: Carpooling/Vanpooling
		Telecommuting	U.S.	Demand Modification: Telecommuting
		Alternate Work Week Schedule	U.S.	Demand Modification: Other
		Bike/Bus/Walk	U.S.	General trip reduction (demand modification)
		Electric Vehicles Demonstration and Business Use	U.S.	Operation of alternative fuel vehicles (AFVs)
		Landfill Gas Generation (solar dish/stirling system)	U.S.	Landfills: Landfill gas recovery for energy use
		Tri-Cities Landfill Gas Generation Facility	U.S.	Landfills: Landfill gas recovery for energy use
		Landfill Gas Flaring (CO2 Increase)	U.S.	Landfills: Landfill gas recovery for flaring
		Landfill Gas Flaring (CH4 Avoided)	U.S.	Landfills: Landfill gas recovery for flaring
Santee Cooper	1605	Cross Unit 2 Retrofit	U.S.	Heat rate or other efficiency improvement
		Demand Side Management Programs	U.S.	Equipment and appliances improvement or replacement
		Demand Side Management Programs	U.S.	Load control
		Demand Side Management Programs	U.S.	Heating, ventilation, and air conditioning
		Demand Side Management Programs	U.S.	Building shell improvement
		Afforestation/Reforestation	U.S.	Afforestation
		Afforestation/Reforestation	U.S.	Reforestation
		Fly Ash Used in Concrete Manufacture	U.S.	Coal ash reuse
		Winyah Unit 1 Turbine Retrofit	U.S.	Heat rate or other efficiency improvement
		Summer Nuclear Upgrade	U.S.	Heat rate or other efficiency improvement
		Winyah Unit 2 Turbine Retrofit	U.S.	Heat rate or other efficiency improvement
		Winyah Unit 3 Turbine Retrofit	U.S.	Heat rate or other efficiency improvement
		Cross Unit 1 Turbine Retrofit	U.S.	Heat rate or other efficiency improvement
		Winyah Unit 4 Turbine Retrofit	U.S.	Heat rate or other efficiency improvement
		Santee Cooper - Horry County Landfill Site	U.S.	Landfill
Seattle City Light	1605	Gorge Dam turbine runner replacement	U.S.	Heat rate or other efficiency improvement
		Diablo Dam turbine runner replacement	U.S.	Heat rate or other efficiency improvement
		Ross Dam turbine runner replacement	U.S.	Heat rate or other efficiency improvement
		Cedar Falls turbine runner replacement	U.S.	Heat rate or other efficiency improvement
		4kV to 26kV Distribution System Conversion	U.S.	Distribution voltage upgrade
		Home Water Savers Program	U.S.	Equipment and appliances improvement or replacement
		Multifamily Common Area Lighting Program	U.S.	Lighting and lighting control
		Neighborhood Power Lighting,Weatherization,Warm Hor	U.S.	Equipment and appliances improvement or replacement
		Neighborhood Power Lighting,Weatherization,Warm Hor	U.S.	Lighting and lighting control
		Neighborhood Power Lighting,Weatherization,Warm Hor	U.S.	Building shell improvement
		Built Smart/Long-Term Super Good Cents Program	U.S.	Equipment and appliances improvement or replacement
		Built Smart/Long-Term Super Good Cents Program	U.S.	Lighting and lighting control
		Built Smart/Long-Term Super Good Cents Program	U.S.	Building shell improvement
		Energy Efficient Water Heater Rebate Program	U.S.	Equipment and appliances improvement or replacement
		Energy Smart Design	U.S.	Equipment and appliances improvement or replacement
		Energy Smart Design	U.S.	Lighting and lighting control
		Energy Smart Design	U.S.	Heating, ventilation, and air conditioning
		Energy Smart Design	U.S.	Building shell improvement
		Energy Smart Design	U.S.	Motor and motor drive
		Energy $avings Plan	U.S.	Equipment and appliances improvement or replacement
		Energy $avings Plan	U.S.	Lighting and lighting control
		Energy $avings Plan	U.S.	Motor and motor drive
		Energy $avings Plan	U.S.	Other energy efficiency project
		Multifamily Conservation Program: Standard-Income	U.S.	Equipment and appliances improvement or replacement
		Multifamily Conservation Program: Standard-Income	U.S.	Lighting and lighting control
		Multifamily Conservation Program: Standard-Income	U.S.	Building shell improvement
		Multifamily Conservation Program: Low-Income	U.S.	Equipment and appliances improvement or replacement
		Multifamily Conservation Program: Low-Income	U.S.	Lighting and lighting control
		Multifamily Conservation Program: Low-Income	U.S.	Building shell improvement

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		Low-Income Electric Program	U.S.	Building shell improvement
		Urban Tree Replacement Program	U.S.	Urban Forestry (sequestration only)
		South Fork Tolt River hydroelectric project	U.S.	Increase in low-emitting capacity
		Smart Business Rebates	U.S.	Lighting and lighting control
		Retail-Wise Lighting and Appliances	U.S.	Equipment and appliances improvement or replacement
		Retail-Wise Lighting and Appliances	U.S.	Lighting and lighting control
		Energy Smart Services	U.S.	Equipment and appliances improvement or replacement
		Energy Smart Services	U.S.	Lighting and lighting control
		Energy Smart Services	U.S.	Heating, ventilation, and air conditioning
		Energy Smart Services	U.S.	Building shell improvement
		Energy Smart Services	U.S.	Motor and motor drive
		Energy Smart Services	U.S.	Other energy efficiency project
SeaWest WindPower, Inc.	1605	Altech Energy III	U.S.	Increase in low-emitting capacity
		Foote Creek I, LLC	U.S.	Increase in low-emitting capacity
		San Gorgonio Westwinds II, LLC	U.S.	Increase in low-emitting capacity
		Foote Creek III, LLC	U.S.	Increase in low-emitting capacity
		Foote Creek II, LLC	U.S.	Increase in low-emitting capacity
		Foote Creek IV, LLC	U.S.	Increase in low-emitting capacity
		Mountain View Power Partners, LLC	U.S.	Increase in low-emitting capacity
		Mountain View Power Partners II, LLC	U.S.	Increase in low-emitting capacity
		Rock River I, LLC	U.S.	Increase in low-emitting capacity
		Condon Wind Power, LLC	U.S.	Increase in low-emitting capacity
Seminole Electric Cooperative, Inc.	1605EZ	Fly Ash & Bottom Ash Reuse	U.S.	Coal ash reuse
		Synthetic Gypsum Production	U.S.	Materials recycling/reuse
		Heat Rate Improvement	U.S.	Heat rate or other efficiency improvement
		Transmission Conductor Optimization	U.S.	Other transmission & distribution improvements
		Lighting Replacement	U.S.	Lighting and lighting control
Seneca Energy II, LLC	1605	Seneca Energy - Stage I	U.S.	Landfill
		Seneca Energy - Stage II	U.S.	Landfill
Shenandoah Valley Electric Cooperative	1605	System Line Conversions and Reconductoring	U.S.	High-efficiency transformers
		System Line Conversions and Reconductoring	U.S.	Reconductoring
		System Line Conversions and Reconductoring	U.S.	Distribution voltage upgrade
		Demand-Side Management Load Control Programs	U.S.	Heating, ventilation, and air conditioning
		Visual Screening-Tree Planting	U.S.	Urban Forestry (sequestration only)
Shih Family	1605EZ	Replace 120 W light bulb with 26 W compact fluorescent	U.S.	Lighting and lighting control
		Replace 75 Watt Bulbs with 13 W CFL bulbs	U.S.	Lighting and lighting control
		Replace 60 W bulbs with 11 W CFL bulbs	U.S.	Lighting and lighting control
		Purchased Honda Civic Hybrid	U.S.	Operation of efficient vehicles
Shrewsbury Electric Light Plant	1605EZ	High Efficiency Transformer	U.S.	High-efficiency transformers
		Lighting Replacement	U.S.	Lighting and lighting control
Sikorsky Aircraft Corporation	1605	Lighting Efficiency Improvements	U.S.	Lighting and lighting control
		Compressed Air Energy Efficiency Improvements	U.S.	Equipment and appliances improvement or replacement
		Compressed Air Energy Efficiency Improvements	U.S.	Load control
		Air Conditioning efficiency improvements	U.S.	Heating, ventilation, and air conditioning
		Process improvement - Vacuum Pump Consolidation	U.S.	Equipment and appliances improvement or replacement
		Composite trim Dust Collector Improvement.	U.S.	Equipment and appliances improvement or replacement
South Carolina Electric & Gas Company	1605	Summer Nuclear Upgrade	U.S.	Increase in low-emitting capacity
		Wateree Station heat rate improvement	U.S.	Heat rate or other efficiency improvement
		Williams Station improvements	U.S.	Heat rate or other efficiency improvement
		Misc. Plant efficiency improvements	U.S.	Heat rate or other efficiency improvement
		Demand Side Management Technologies	U.S.	Lighting and lighting control
		Demand Side Management Technologies	U.S.	Load control
		Demand Side Management Technologies	U.S.	Heating, ventilation, and air conditioning
		Demand Side Management Technologies	U.S.	Building shell improvement
		Forest Management Plan	U.S.	Afforestation
		Forest Management Plan	U.S.	Reforestation
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Coal Ash Utilization Program	U.S.	Coal ash reuse
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		Urquhart Repowering Project	U.S.	Fuel switching
		SCANA Participation in STAR program	U.S.	Natural gas transmission
		SCANA Participation in STAR program	U.S.	Natural gas distribution
Southeastern Biomass Partners, LP	1605EZ	Biomass Waste to Energy	U.S.	Fuel switching
Southern California Edison Co.	1605	Renewable Energy Purchases - Wind	U.S.	Zero/Low Emission Power Purchases
		Renewable Energy Purchases - Geothermal	U.S.	Zero/Low Emission Power Purchases
		Renewable Energy Purchases - Biomass	U.S.	Zero/Low Emission Power Purchases
		Demand Side Management	U.S.	Equipment and appliances improvement or replacement
		Demand Side Management	U.S.	Lighting and lighting control
		Demand Side Management	U.S.	Load control
		Demand Side Management	U.S.	Heating, ventilation, and air conditioning
		Demand Side Management	U.S.	Building shell improvement
		Demand Side Management	U.S.	Motor and motor drive
		Demand Side Management	U.S.	Fuel switching
		Demand Side Management	U.S.	Urban forestry (energy effects only)
		ENVEST SCE	U.S.	Equipment and appliances improvement or replacement
		ENVEST SCE	U.S.	Lighting and lighting control
		ENVEST SCE	U.S.	Heating, ventilation, and air conditioning
		ENVEST SCE	U.S.	Building shell improvement
		ENVEST SCE	U.S.	Motor and motor drive
		Mohave Power Project Heat Rate Improvement Program	U.S.	Heat rate or other efficiency improvement
		Internal Combustion Engine Replacement Program	U.S.	Motor and motor drive
		Internal Combustion Engine Replacement Program	U.S.	Fuel switching
		Fly Ash Sales for Concrete Production	U.S.	Coal ash reuse
		Electric Vehicle Program	U.S.	Operation of alternative fuel vehicles (AFVs)
		Repowering of Hydro Generation Units	U.S.	Availability improvement
		San Onofre Availability Improvements	U.S.	Availability improvement
		Palo Verde Availability Improvement	U.S.	Availability improvement
		Renewable Energy Purchases - Small Hydro	U.S.	Dispatching changes only
		SF6 Gas Management Program	U.S.	Emission avoidance
		SCE Waste-Not Program	U.S.	Materials recycling/reuse
		Forestation at Shaver Lake	U.S.	Modified forest management
		Urban Donation of tree seedlings from Shaver Lake nurs	U.S.	Urban Forestry (sequestration only)
		Net Growth of Timber at Shaver Lake	U.S.	Modified forest management
		Harvesting Timber at Shaver Lake	U.S.	Modified forest management

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
Southern Company[p]	1605	Carbon Sequestration on Company Lands	U.S.	Reforestation
		Carbon Sequestration on Noncompany Lands	U.S.	Afforestation
		Carbon Sequestration on Noncompany Lands	U.S.	Reforestation
		Biomass	U.S.	Fuel switching
		Hatch Nuclear Plant Capacity Uprate	U.S.	Increase in low-emitting capacity
		Vogtle Electric Generating Plant Availability Improvement	U.S.	Availability improvement
		Vogtle Electric Generating Plant (Nuclear) Capacity Upra	U.S.	Increase in low-emitting capacity
		Hatch Nuclear Plant Availability Improvements	U.S.	Availability improvement
		New Combustion Turbines	U.S.	Fuel switching
		New Combustion Turbines	U.S.	Increase in low-emitting capacity
		Heat Rate Improvement on Coal-Fired Capacity	U.S.	Heat rate or other efficiency improvement
		Bulk Power Transmission Improvements	U.S.	High-efficiency transformers
		Bulk Power Transmission Improvements	U.S.	Distribution voltage upgrade
		Bulk Power Transmission Improvements	U.S.	Other transmission & distribution improvements
		Transportation Research	U.S.	Operation of alternative fuel vehicles (AFVs)
		Farley Nuclear Plant Availability Improvements	U.S.	Availability improvement
		Demand-Side Management	U.S.	Equipment and appliances improvement or replacement
		Demand-Side Management	U.S.	Lighting and lighting control
		Demand-Side Management	U.S.	Building shell improvement
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Farley Nuclear Plant Uprate	U.S.	Increase in low-emitting capacity
		Gas Capability at Watson 4 and 5	U.S.	Fuel switching
		Sulfur Hexafluoride (SF6) Emissions Reductions	U.S.	Emission avoidance
		Gas Capability at Plant Yates	U.S.	Fuel switching
		Gas Capability at Plant McDonough	U.S.	Fuel switching
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		Combined-Cycle Units	U.S.	Increase in low-emitting capacity
		EnviroTech Investments	U.S.	Research and development programs
		Switchgrass	U.S.	Fuel switching
		Carpooling and Mass Transit	U.S.	Demand Modification: Carpooling/Vanpooling
		Carpooling and Mass Transit	U.S.	Demand Modification: Use of mass transit
		Carpooling and Mass Transit	U.S.	Demand Modification: Other
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
Southside Electric Cooperative	1605	System Line Conversion and Reconductoring	U.S.	High-efficiency transformers
		System Line Conversion and Reconductoring	U.S.	Reconductoring
		System Line Conversion and Reconductoring	U.S.	Distribution voltage upgrade
Springs Industries, Inc.	1605EZ	Recycling & Source Reduction - CO2 Reduction	U.S.	Materials recycling/reuse
		Recycling & Source Reduction - CH4 Reduction	U.S.	Materials recycling/reuse
		Recycling & Source Reduction	U.S.	Materials recycling/reuse
		Recycling & Source Reduction	U.S.	Materials recycling/reuse
Steuben Rural Electric Co-op	1605EZ	1994 Distribution Line Replacement	U.S.	Other transmission & distribution improvements
		1995 Distribution Line Replacement	U.S.	Other transmission & distribution improvements
		1996 Conductor Replacement	U.S.	Reconductoring
		1997 Conductor Replacement	U.S.	Reconductoring
		2002 Substation Efficiency Improvement	U.S.	Heat rate or other efficiency improvement
		1994 Water Heater Control Program	U.S.	Load control
		1995 Water Heater Control Program	U.S.	Load control
		1996 Water Heater Control Program	U.S.	Load control
		1996 Farm Energy Efficiency	U.S.	General energy use
		1997 Water Heater Control Program	U.S.	Load control
		1997 Farm Energy Efficiency	U.S.	General energy use
Tacoma Power	1605EZ	Generator Improvement (Wynoochee)	U.S.	General generator Improvements
		Generator Improvement (Cushman/Nisqually)	U.S.	General generator Improvements
		Energy Conservation	U.S.	General energy use
		Alternative Transportation	U.S.	General transportation projects
		Forest Preservation	U.S.	Forest preservation
		Afforestation	U.S.	Afforestation
		Reforestation	U.S.	Reforestation
Tampa Electric Company	1605	Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Fly Ash Reuse	U.S.	Coal ash reuse
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
Tennessee Valley Authority	1605	Return Browns Ferry Nuclear Units 2 and 3 to Service	U.S.	Increase in low-emitting capacity
		Heat Rate Improvements At TVA Coal Fired Generating	U.S.	Heat rate or other efficiency improvement
		Hydro Unit Modernization	U.S.	Heat rate or other efficiency improvement
		Hydro Unit Modernization	U.S.	Increase in low-emitting capacity
		Wood Waste Cofiring At Coal Fired Generating Plants	U.S.	Fuel switching
		Transmission System Efficiency Improvements	U.S.	Reconductoring
		Transmission System Efficiency Improvements	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Residential Marketing Program	U.S.	Load control
		Outdoor Lighting Replacements By Memphis Light, Gas /	U.S.	Lighting and lighting control
		Comfort Plus Homes	U.S.	Building shell improvement
		Transportation Fleet Fuel Efficiency Improvement	U.S.	Operation of efficient vehicles
		Alternate Fuel Vehicles	U.S.	Operation of alternative fuel vehicles (AFVs)
		Landfill Methane Recovery and Power Generation	U.S.	Landfill
		Afforestation On TVA Lands	U.S.	Afforestation
		CFC Management	U.S.	Reclamation: Recycling
		Paper Recycling	U.S.	Materials recycling/reuse
		Flyash Sales To Concrete Industry	U.S.	Coal ash reuse
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Start Watts Bar Nuclear Unit 1	U.S.	Increase in low-emitting capacity
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		Green Power Switch	U.S.	Fuel switching

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
Texas Genco, LP	1605	GT PRIME	U.S.	Heat rate or other efficiency improvement
		Demand Side Management	U.S.	Equipment and appliances improvement or replacement
		Demand Side Management	U.S.	Lighting and lighting control
		Demand Side Management	U.S.	Load control
		Demand Side Management	U.S.	Heating, ventilation, and air conditioning
		Demand Side Management	U.S.	Building shell improvement
		Demand Side Management	U.S.	Motor and motor drive
		Rice Field Methane Reductions Study	U.S.	Cropland
		Coal Fly Ash Sales	U.S.	Coal ash reuse
The Empire District Electric Co.	1605	Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
The Estee Lauder Companies	1605	Melville DC - Octron Lighting Project	U.S.	Lighting and lighting control
		187 Melville Manufacturing Octron Lighting	U.S.	Lighting and lighting control
		Whitman 4 Octron Lighting Project	U.S.	Lighting and lighting control
		229 Trevose Octron Lighting Project	U.S.	Lighting and lighting control
		1381 Research Park Lighting Control Sensors	U.S.	Lighting and lighting control
		1569 Melville Motor Upgrades	U.S.	Motor and motor drive
		1522 Melville Occupancy Sensors Offices	U.S.	Lighting and lighting control
		Melville Steam Trap System Survey and Remediation	U.S.	Heating, ventilation, and air conditioning
		1392 Octron Lighting JHL	U.S.	Lighting and lighting control
		209 Oakland Octron Lighting Upgrade	U.S.	Lighting and lighting control
		Research Park Octron Lighting Project	U.S.	Lighting and lighting control
		3643 Oakland Warehouse Sensor Installation	U.S.	Lighting and lighting control
		284 Melville Energy Conservation	U.S.	Lighting and lighting control
Tucson Electric Power Company	1605	Commercial DSM Programs	U.S.	Equipment and appliances improvement or replacement
		Commercial DSM Programs	U.S.	Lighting and lighting control
		Commercial DSM Programs	U.S.	Heating, ventilation, and air conditioning
		Commercial DSM Programs	U.S.	Motor and motor drive
		Residential DSM Programs	U.S.	Equipment and appliances improvement or replacement
		Residential DSM Programs	U.S.	Heating, ventilation, and air conditioning
		Residential DSM Programs	U.S.	Building shell improvement
		Trees for Tucson	U.S.	Urban Forestry (sequestration only)
		R-22 Recycling	U.S.	Reclamation: Recycling
		R-22 Recycling	U.S.	Emission avoidance
		R-11 Recycling	U.S.	Emission avoidance
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		SF6 Recycling	U.S.	Reclamation: Recycling
		SF6 Recycling	U.S.	Emission avoidance
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		R-12 Emission Avoidance	U.S.	Emission avoidance
		Landfill Gas (Fuel Switching) Project	U.S.	Fuel switching
		Solar Electric - Photovoltaic	U.S.	Increase in low-emitting capacity
		Travel Reduction Program	U.S.	Demand Modification: Use of mass transit
		Travel Reduction Program	U.S.	Demand Modification: Telecommuting
		Travel Reduction Program	U.S.	Demand Modification: Other
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		Coal Ash Reuse	U.S.	Coal ash reuse
TXU	1605	Operation of Nuclear Generation Units	U.S.	Availability improvement
		Operation of Nuclear Generation Units	U.S.	Decrease in high-emitting capacity
		Power Plant Heat Rate Improvement Projects	U.S.	Heat rate or other efficiency improvement
		Renewable Energy Development Projects	U.S.	Increase in low-emitting capacity
		Renewable Energy Development Projects	U.S.	Zero/Low Emission Power Purchases
		Demand-Side Management Program	U.S.	Equipment and appliances improvement or replacement
		Demand-Side Management Program	U.S.	Lighting and lighting control
		Demand-Side Management Program	U.S.	Load control
		Demand-Side Management Program	U.S.	Heating, ventilation, and air conditioning
		Demand-Side Management Program	U.S.	Building shell improvement
		Demand-Side Management Program	U.S.	Motor and motor drive
		Vehicle Use Reductions	U.S.	Service efficiency improvements
		TXU's Participation in the Texas Reforestation Foundatio	U.S.	Afforestation
		TXU's Participation in the Texas Reforestation Foundatio	U.S.	Reforestation
		Coal Ash Byproduct Use	U.S.	Coal ash reuse
		Texas Reforestation Foundation	U.S.	Reforestation
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Employee Carpool Program	U.S.	Demand Modification: Carpooling/Vanpooling
		Employee Bus Pass Program	U.S.	Demand Modification: Use of mass transit
		Landfill Methane	U.S.	Landfill
		Paper and Aluminum Recycling	U.S.	Materials recycling/reuse
		SF6 Reductions	U.S.	Emission avoidance
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Lignite and Western Coal Blending	U.S.	Fuel switching
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		Alternative Fuel Vehicle Program	U.S.	Operation of alternative fuel vehicles (AFVs)
		Ranger Exhaust Gas Project	U.S.	Carbon dioxide injection into the ground
U. S. Steel Mining Company, LLC	1605	No. 50 Mine: Gas Recovery For Sale / Use	U.S.	Production coal mines, underground, longwall
		Oak Grove Mine: Gas Recovery For Sale / Use	U.S.	Production coal mines, underground, longwall

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
US Energy Biogas Corp.	1605EZ	Burlington	U.S.	Landfills: Landfill gas recovery for energy use
		Onondaga	U.S.	Landfills: Landfill gas recovery for energy use
		Manchester	U.S.	Landfills: Landfill gas recovery for energy use
		Manchester Flare	U.S.	Landfills: Landfill gas recovery for flaring
		Barre	U.S.	Landfills: Landfill gas recovery for energy use
		Barre Flare	U.S.	Landfills: Landfill gas recovery for flaring
		Romeoville	U.S.	Landfills: Landfill gas recovery for energy use
		Romeoville Flare	U.S.	Landfills: Landfill gas recovery for flaring
		Dolton	U.S.	Landfills: Landfill gas recovery for energy use
		Dolton Flare	U.S.	Landfills: Landfill gas recovery for flaring
		SPSA	U.S.	Landfills: Landfill gas recovery for energy use
		SPSA Flare	U.S.	Landfills: Landfill gas recovery for flaring
		Streator	U.S.	Landfills: Landfill gas recovery for energy use
		Brickyard	U.S.	Landfills: Landfill gas recovery for energy use
		Cape May School	U.S.	Landfills: Landfill gas recovery for energy use
		Cape May Flare	U.S.	Landfills: Landfill gas recovery for flaring
		122nd Street	U.S.	Landfills: Landfill gas recovery for energy use
		122nd Street Flare	U.S.	Landfills: Landfill gas recovery for flaring
		Oceanside	U.S.	Landfills: Landfill gas recovery for energy use
		Smithtown	U.S.	Landfills: Landfill gas recovery for energy use
		Smithtown Flare	U.S.	Landfills: Landfill gas recovery for flaring
		Roxanna	U.S.	Landfills: Landfill gas recovery for energy use
		Upper Rock	U.S.	Landfills: Landfill gas recovery for energy use
		Tucson	U.S.	Landfills: Landfill gas recovery for energy use
		Tucson Flare	U.S.	Landfills: Landfill gas recovery for flaring
		Dixon	U.S.	Landfills: Landfill gas recovery for energy use
		Garland Flare	U.S.	Landfills: Landfill gas recovery for flaring
		Amity	U.S.	Landfills: Landfill gas recovery for energy use
		Marina	U.S.	Landfills: Landfill gas recovery for energy use
		Harrison Flare	U.S.	Landfills: Landfill gas recovery for flaring
		SPSA/CIBA	U.S.	Landfills: Landfill gas recovery for energy use
		Hamm/Sussex	U.S.	Landfills: Landfill gas recovery for energy use
		Brickyard Flare	U.S.	Landfills: Landfill gas recovery for flaring
		Upper Rock Flare	U.S.	Landfills: Landfill gas recovery for flaring
		Streator Flare	U.S.	Landfills: Landfill gas recovery for flaring
		Countryside	U.S.	Landfills: Landfill gas recovery for energy use
		Countryside Flare	U.S.	Landfills: Landfill gas recovery for flaring
		Morris	U.S.	Landfills: Landfill gas recovery for energy use
		Morris Flare	U.S.	Landfills: Landfill gas recovery for flaring
		Brookhaven	U.S.	Landfills: Landfill gas recovery for energy use
		Brown East	U.S.	Landfills: Landfill gas recovery for flaring
		Brown West	U.S.	Landfills: Landfill gas recovery for flaring
Utah Municipal Power Agency	1605EZ	Energy Education Program	U.S.	Education and training programs
		Geothermal Power	U.S.	Increase in low-emitting capacity
		Wind Power	U.S.	Increase in low-emitting capacity
		Low Loss Transformers	U.S.	High-efficiency transformers
		Residential Audits	U.S.	General energy use
		In House Conservation	U.S.	General energy use
		Light Replacement Program	U.S.	Lighting and lighting control
		Tree Planting	U.S.	Urban Forestry (sequestration only)
Vermont Public Power Supply Authority	1605	Swanton Village Hydro Expansion	U.S.	Increase in low-emitting capacity
		Transmission and Distribution System Efficiency Improve	U.S.	High-efficiency transformers
		Transmission and Distribution System Efficiency Improve	U.S.	Reconductoring
		Transmission and Distribution System Efficiency Improve	U.S.	Distribution voltage upgrade
		Transmission and Distribution System Efficiency Improve	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Residential Water Heating and Lighting Efficiency Progra	U.S.	Equipment and appliances improvement or replacement
		Residential Water Heating and Lighting Efficiency Progra	U.S.	Lighting and lighting control
		Residential Appliance Disposal Program	U.S.	Equipment and appliances improvement or replacement
		Residential Low Income Weatherization Piggyback Progr	U.S.	Equipment and appliances improvement or replacement
		Residential Low Income Weatherization Piggyback Progr	U.S.	Lighting and lighting control
		Residential Mail Order Lighting Program	U.S.	Lighting and lighting control
		Farm Efficiency Program	U.S.	Equipment and appliances improvement or replacement
		Farm Efficiency Program	U.S.	Lighting and lighting control
		Farm Efficiency Program	U.S.	Heating, ventilation, and air conditioning
		Farm Efficiency Program	U.S.	Motor and motor drive
		Small Commercial Retrofit Program	U.S.	Equipment and appliances improvement or replacement
		Small Commercial Retrofit Program	U.S.	Lighting and lighting control
		Small Commercial Retrofit Program	U.S.	Heating, ventilation, and air conditioning
		Small Commercial Retrofit Program	U.S.	Motor and motor drive
		Large Commercial and Industrial Audit Program	U.S.	Equipment and appliances improvement or replacement
		Large Commercial and Industrial Audit Program	U.S.	Lighting and lighting control
		Large Commercial and Industrial Audit Program	U.S.	Load control
		Large Commercial and Industrial Audit Program	U.S.	Heating, ventilation, and air conditioning
		Large Commercial and Industrial Audit Program	U.S.	Building shell improvement
		Large Commercial and Industrial Audit Program	U.S.	Motor and motor drive
		Equipment Replacement and Remodeling Program	U.S.	Lighting and lighting control
		Equipment Replacement and Remodeling Program	U.S.	Motor and motor drive
		Street and Area Lighting Efficiency Program	U.S.	Lighting and lighting control
		Act 250 New Construction Program	U.S.	Equipment and appliances improvement or replacement
		Act 250 New Construction Program	U.S.	Lighting and lighting control
		Act 250 New Construction Program	U.S.	Heating, ventilation, and air conditioning
		Act 250 New Construction Program	U.S.	Building shell improvement
		Act 250 New Construction Program	U.S.	Motor and motor drive
		Residential Top Ten	U.S.	Equipment and appliances improvement or replacement
		Residential Top Ten	U.S.	Fuel switching
Waste Management Inc.	1605	Metro MSW Landfill-2742	U.S.	Landfill
		CID Areas 1, 2 and 3 (Power) MSW Landfill - 2030	U.S.	Landfill
		Kankakee (Power) MSW Landfill - 2319	U.S.	Landfill
		Milam MSW Landfill - 2056	U.S.	Landfill
		Settler's Hill (Power) MSW Landfill - 2041	U.S.	Landfill
		Tazewell (Power) MSW Landfill - 2899	U.S.	Landfill
		Woodland (Power) MSW Landfill - 2043	U.S.	Landfill
		Deercroft (Power) MSW Landfill - 318	U.S.	Landfill
		Prairie View (Power) MSW Landfill - 316	U.S.	Landfill
		Twin Bridges (Power) MSW Landfill - 317	U.S.	Landfill
		Venice Park (Power) MSW Landfill - 2616	U.S.	Landfill
		Pheasant Run (Power) MSW Landfill - 2290	U.S.	Landfill
		Tazewell MSW Landfill (flare) - 2899	U.S.	Landfill
		Woodland (flare) MSW Landfill - 2043	U.S.	Landfill

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		Deercroft (flare) MSW Landfill - 318	U.S.	Landfill
		Prairie View (flare) MSW Landfill - 316	U.S.	Landfill
		Twin Bridges (flare) MSW Landfill - 317	U.S.	Landfill
		Pheasant Run (flare) MSW Landfill - 2290	U.S.	Landfill
		Envirofil of III MSW Landfill - 53	U.S.	Landfill
		Jay County MSW Landfill - 228	U.S.	Landfill
		Oak Ridge RDF MSW Landfill - 319	U.S.	Landfill
		Countryside MSW Landfill - 6	U.S.	Landfill
		DeKalb County RDF MSW Landfill - 2269	U.S.	Landfill
		Rolling Meadows RDF MSW Landfill - 2040	U.S.	Landfill
		Eagle Valley RDF MSW Landfill - 2336	U.S.	Landfill
		Hastings MSW Landfill - 1749	U.S.	Landfill
		Westside MSW Landfill - 2894	U.S.	Landfill
		Spruce Ridge MSW Landfill - 1702	U.S.	Landfill
		Chain of Rocks MSW Landfill - 2450	U.S.	Landfill
		Earthmovers MSW Landfill - 17	U.S.	Landfill
		Liberty MSW Landfill - 22	U.S.	Landfill
		Peoples MSW Landfill - 1736	U.S.	Landfill
		Woodland Meadows RDF MSW Landfill - 2337	U.S.	Landfill
		Pine Tree Acres MSW Landfill - 1733	U.S.	Landfill
		Des Moines MSW Landfill - 2066	U.S.	Landfill
		Five Oaks RDF MSW Landfill - 2271	U.S.	Landfill
		Burnsville Sanitary MSW Landfill - 291	U.S.	Landfill
		Douglas County MSW Landfill - 2809	U.S.	Landfill
		Deer Track Park MSW Landfill - 1704	U.S.	Landfill
		Omega Hills/Orchard Ridge MSW Landfill - 2286	U.S.	Landfill
		Ridgeview (Flare) MSW Landfill - 2289	U.S.	Landfill
		Valley Trail MSW Landfill - 2293	U.S.	Landfill
		Elk River MSW Landfill - 1706	U.S.	Landfill
		Outer Loop MSW Landfill - 2482	U.S.	Landfill
		Akron (Hardy Road) MSW Landfill - 1367	U.S.	Landfill
		American MSW Landfill - 136	U.S.	Landfill
		Pinnacle Road MSW Landfill	U.S.	Landfill
		Stony Hollow MSW Landfill - 2672	U.S.	Landfill
		Suburban MSW Landfill - 2363	U.S.	Landfill
		Arden MSW Landfill - 70	U.S.	Landfill
		Evergreen MSW Landfill - 1314	U.S.	Landfill
		Dauphin Meadows MSW Landfill - 63	U.S.	Landfill
		Kelly Run MSW Landfill - 841	U.S.	Landfill
		Lake View (flare) MSW Landfill - 2387	U.S.	Landfill
		Laurel Highlands MSW Landfill - 65	U.S.	Landfill
		Monroeville MSW Landfill - 69	U.S.	Landfill
		Mountain View MSW Landfill - 2086	U.S.	Landfill
		Northwest MSW Landfill - 2636	U.S.	Landfill
		Pine Grove MSW Landfill - 835	U.S.	Landfill
		Pottstown (flare) MSW Landfill - 2393	U.S.	Landfill
		Shade (RCC) MSW Landfill - 231	U.S.	Landfill
		Southern Alleghenies MSW Landfill - 64	U.S.	Landfill
		South Hills (Arnoni) MSW Landfill - 185	U.S.	Landfill
		Tullytown MSW Landfill - 2382	U.S.	Landfill
		Valley MSW Landfill - 232	U.S.	Landfill
		New Milford (flare) MSW Landfill	U.S.	Landfill
		Fitchburg MSW Landfill - 439	U.S.	Landfill
		Granby (Holyoke) MSW Landfill - 445	U.S.	Landfill
		Martone (Barre) MSW Landfill - 1760	U.S.	Landfill
		Turnkey (flare) MSW Landfill - 2159	U.S.	Landfill
		Alliance MSW Landfill - 154	U.S.	Landfill
		GROWS MSW Landfill - 2382	U.S.	Landfill
		Bradley MSW Landfill - 2502	U.S.	Landfill
		El Sobrante MSW Landfill - 0166	U.S.	Landfill
		Redwood MSW Landfill - 1507	U.S.	Landfill
		Columbia Ridge MSW Landfill - 2588	U.S.	Landfill
		Riverbend MSW Landfill - 1509	U.S.	Landfill
		Butterfield MSW Landfill - 2384	U.S.	Landfill
		Altamont (Power) MSW Landfill - 2554	U.S.	Landfill
		Guadalupe MSW Landfill - 1543	U.S.	Landfill
		John Smith MSW Landfill - 0293	U.S.	Landfill
		Kirby Canyon MSW Landfill - 1046	U.S.	Landfill
		Lancaster MSW Landfill - 2508	U.S.	Landfill
		Simi Valley MSW Landfill - 2510	U.S.	Landfill
		Tri Cities MSW Landfill - 1045	U.S.	Landfill
		Hillsboro MSW Landfill -1515	U.S.	Landfill
		Kennewick/Wenatchee MSW Landfill - 1048	U.S.	Landfill
		Olympic View MSW Landfill - 0030	U.S.	Landfill
		New Milford (Power) MSW Landfill	U.S.	Landfill
		Chicopee MSW Landfill - 444	U.S.	Landfill
		Turnkey (Power) MSW Landfill - 2159	U.S.	Landfill
		High Acres (Power) MSW Landfill - 2277	U.S.	Landfill
		Mohawk Valley MSW Landfill - 2167	U.S.	Landfill
		Monroe-Livingston (Power) MSW Landfill - 2403	U.S.	Landfill
		Cuyahoga MSW Landfill - 216	U.S.	Landfill
		Lake View (Power) MSW Landfill - 2387	U.S.	Landfill
		Pottstown (Power) MSW Landfill - 2393	U.S.	Landfill
		Monroe-Livingston (flare) MSW Landfill - 2403	U.S.	Landfill
		Statewide MSW Landfill	U.S.	Landfill
		Parklands MSW Landfill	U.S.	Landfill
		Akron (Hazel Street) MSW Landfill	U.S.	Landfill
		Lake County MSW Landfill	U.S.	Landfill
		Land & Development (L&D) Company (Power)	U.S.	Landfill
		Cinnaminson MSW Landfill	U.S.	Landfill
		BJ (flare) MSW Landfill	U.S.	Landfill
		BJ (Power) MSW Landfill	U.S.	Landfill
		Boundary Road MSW Landfill	U.S.	Landfill
		Button Gwinnett MSW Landfill	U.S.	Landfill
		Cereal City MSW Landfill	U.S.	Landfill
		City Sand MSW Landfill	U.S.	Landfill
		Elizabethtown MSW Landfill	U.S.	Landfill
		Greene Valley (Power) MSW Landfill	U.S.	Landfill
		Hunt Road MSW Landfill	U.S.	Landfill
		Lake (Power) MSW Landfill	U.S.	Landfill

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
		Powell Road MSW Landfill	U.S.	Landfill
		Rolling Hills MSW Landfill	U.S.	Landfill
		Serif Road MSW Landfill	U.S.	Landfill
		Valley View MSW Landfill	U.S.	Landfill
		Wheeler RDF MSW Landfill (Power)	U.S.	Landfill
		White Lake MSW Landfill	U.S.	Landfill
		Chastang MSW Landfill - 1143	U.S.	Landfill
		Two Pine MSW Landfill - 2181	U.S.	Landfill
		Okeechobee MSW Landfill - 46	U.S.	Landfill
		Springhill/Recycle MSW Landfill - 2248	U.S.	Landfill
		Bolton Road/SSL MSW Landfill - 76	U.S.	Landfill
		Live Oak MSW Landfill - 2138	U.S.	Landfill
		Pine Bluff MSW Landfill - 1308	U.S.	Landfill
		Superior MSW Landfill - 2117	U.S.	Landfill
		Magnolia MSW Landfill - 151	U.S.	Landfill
		Pecan Grove MSW Landfill - 2135	U.S.	Landfill
		Piedmont MSW Landfill - 2120	U.S.	Landfill
		East Oak MSW Landfill	U.S.	Landfill
		Quarry MSW Landfill - 2185	U.S.	Landfill
		Oakridge MSW Landfill - 49	U.S.	Landfill
		Palmetto MSW Landfill - 2106	U.S.	Landfill
		Richland MSW Landfill - 82	U.S.	Landfill
		Chestnut Ridge (Power) MSW Landfill - 2115	U.S.	Landfill
		DFW (Power) MSW Landfill - 399	U.S.	Landfill
		Westside (Ft. Worth) MSW Landfill - 1004	U.S.	Landfill
		Security MSW Landfill - 1017	U.S.	Landfill
		Skyline MSW Landfill - 1003	U.S.	Landfill
		Iris Glen MSW Landfill - 2570	U.S.	Landfill
		Quail Hollow MSW Landfill - 1305	U.S.	Landfill
		West Camden MSW Landfill - 2087	U.S.	Landfill
		Atascocita MSW Landfill - 2158	U.S.	Landfill
		Austin Community MSW Landfill - 2162	U.S.	Landfill
		Baytown MSW Landfill - 1129	U.S.	Landfill
		Bluebonnet MSW Landfill - 1074	U.S.	Landfill
		Coastal Plains MSW Landfill - 1073	U.S.	Landfill
		Covel Gardens MSW Landfill - 2177	U.S.	Landfill
		Grand Central MSW Landfill - 204	U.S.	Landfill
		Amelia MSW Landfill - 41	U.S.	Landfill
		Atlantic Waste Disposal MSW Landfill - 858	U.S.	Landfill
		Bethel MSW Landfill - 1306	U.S.	Landfill
		Charles City - 42	U.S.	Landfill
		King George County MSW Landfill - 1323	U.S.	Landfill
		MIddle Pennisula MSW Landfill - 2497	U.S.	Landfill
		DRPI Landfill - 1307	U.S.	Landfill
		Brookfield Sanitary Landfill	U.S.	Landfill
		ELDA RDF Landfill	U.S.	Landfill
		Greene Valley (Flare) MSW Landfill	U.S.	Landfill
		HOD Landfill	U.S.	Landfill
		Lake (Flare) MSW Landfill	U.S.	Landfill
		Rumble Landfill 1	U.S.	Landfill
		Rumble Landfill 2	U.S.	Landfill
		Stone Ridge Landfill	U.S.	Landfill
		Sandy Hill	U.S.	Landfill
		Chaffee	U.S.	Landfill
		High Acres (Flare)	U.S.	Landfill
		Geneva	U.S.	Landfill
		Dads Landfill	U.S.	Landfill
		Kankakee (Flare)	U.S.	Landfill
		Laraway	U.S.	Landfill
		Wheatland Prairie RDF	U.S.	Landfill
		Autumn Hills RDF	U.S.	Landfill
		Tri-City RDF	U.S.	Landfill
		Timberline	U.S.	Landfill
		Evergreen MSW Landfill	U.S.	Landfill
		Chestnut Ridge (Flare) MSW Landfill-2115	U.S.	Landfill
		DFW (Flare) MSW Landfill	U.S.	Landfill
		Conroe 6 MSW Landfill - 0127	U.S.	Landfill
		Tonitown MSW Landfill - 0087	U.S.	Landfill
		Altamont (Flare) MSW Landfill - 2554	U.S.	Landfill
		Crossroads	U.S.	Landfill
		Mill Seat Landfill	U.S.	Landfill
		CID Areas 1, 2 and 3 (Flare)	U.S.	Landfill
		Venice Park (Flare) MSW Landfill	U.S.	Landfill
		Ridgeview (Power) MSW Landfill	U.S.	Landfill
		Settler's Hill (Flare) Landfill - 2384	U.S.	Landfill
		Land and Development (L&D) Company (Flare)	U.S.	Landfill
		Wheeler RDF MSW Landfill (Flare)	U.S.	Landfill
		Central Sanitary Landfill (Power)	U.S.	Landfill
		Central Sanitary Landfill (Flare)	U.S.	Landfill
		Gulf Coast Landfill (Flare)	U.S.	Landfill
		Medley Landfill & Recycling Center (Flare)	U.S.	Landfill
		Naples Sanitary Landfill	U.S.	Landfill
		R & B Landfill (Flare)	U.S.	Landfill
		Comal County Landfill	U.S.	Landfill
		Hillside Landfill	U.S.	Landfill
		New Boston	U.S.	Landfill
		Oyster Bay Regional Park Landfill	U.S.	Landfill
		East Side	U.S.	Landfill
Waverly Light & Power Company	1605	Wind Turbine (Project 1)	U.S.	Increase in low-emitting capacity
		Hydro (Project 2)	U.S.	Increase in low-emitting capacity
		Distribution System Upgrade (Project 3)	U.S.	Distribution voltage upgrade
		Low-Loss Transformers (Project 4)	U.S.	High-efficiency transformers
		Energy End-Use Programs (Project 3.1)	U.S.	Equipment and appliances improvement or replacement
		Energy End-Use Programs (Project 3.1)	U.S.	Lighting and lighting control
		Energy End-Use Programs (Project 3.1)	U.S.	Load control
		Energy End-Use Programs (Project 3.1)	U.S.	Heating, ventilation, and air conditioning
		High-Pressure Sodium Lights (Project 3.2)	U.S.	Lighting and lighting control
		Energy Savings Due to Trees Forever (Project 3.3)	U.S.	Urban forestry (energy effects only)
		Electric Vehicle (Project 4.1)	U.S.	Operation of alternative fuel vehicles (AFVs)
		Trees Forever (Project 8.1)	U.S.	Urban Forestry (sequestration only)

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
We Energies	1605	Fossil plant heat rate improvements	U.S.	Heat rate or other efficiency improvement
		Hydro plant improvements and additions	U.S.	Increase in low-emitting capacity
		Transmission & distribution system loss reductions	U.S.	High-efficiency transformers
		Transmission & distribution system loss reductions	U.S.	Distribution voltage upgrade
		Transmission & distribution system loss reductions	U.S.	Other electricity generation, transmission, and distribution projects/activities
		Demand-side management energy efficiency programs	U.S.	Equipment and appliances improvement or replacement
		Demand-side management energy efficiency programs	U.S.	Lighting and lighting control
		Demand-side management energy efficiency programs	U.S.	Heating, ventilation, and air conditioning
		Demand-side management energy efficiency programs	U.S.	Building shell improvement
		Demand-side management energy efficiency programs	U.S.	Motor and motor drive
		Vehicle conversion to dual fuel capability	U.S.	Operation of alternative fuel vehicles (AFVs)
		Vehicle conversion to dual fuel capability	U.S.	Other transportation and off-road vehicle projects/activities
		Beneficial use of landfill methane	U.S.	Landfill
		CFC-12 Recovery from Appliance Turn-In Program	U.S.	Reclamation: Recycling
		Fly ash substitution program	U.S.	Coal ash reuse
		Rio Bravo Carbon Sequestration Pilot Project	Foreign	Forest preservation
		Mississippi River Valley Bottomland Hardwood Restoratic	U.S.	Afforestation
		Western Oregon Carbon Sequestration Project	U.S.	Afforestation
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign	Modified forest management
		Energy for Tomorrow(TM) Renewable Energy Program	U.S.	Increase in low-emitting capacity
		Energy for Tomorrow(TM) Renewable Energy Program	U.S.	Zero/Low Emission Power Purchases
		Upper Ouachita River Valley Bottomland Hardwood Rest	U.S.	Afforestation
		Overflow Bottomland Hardwood Forest Restoration Proje	U.S.	Afforestation
		Increased Nuclear Capacity at Point Beach Nuclear Plan	U.S.	Increase in low-emitting capacity
		Rio Bravo Carbon Sequestration Pilot Project Expansion	Foreign	Forest preservation
		Rio Bravo Carbon Sequestration Pilot Project (Full Share	Foreign	Forest preservation
		Badger Windpower Purchases	U.S.	Zero/Low Emission Power Purchases
		St. Catherine-NFWF	U.S.	Afforestation
		Bayou Cocodrie Bottomland Hardwood Forest Restoratic	U.S.	Afforestation
		St. Catherine-ESI	U.S.	Afforestation
		Ag Biomass Generation	U.S.	Zero/Low Emission Power Purchases
Wisconsin Public Power Inc.	1605EZ	Renewable Energy Demonstrations- PV Project	U.S.	Increase in low-emitting capacity
		Renewable Energy Projects - Hydroelectric	U.S.	Increase in low-emitting capacity
		Boswell Heat Rate Reduction	U.S.	Heat rate or other efficiency improvement
		Kaukauna CT I&C Upgrade	U.S.	General generator Improvements
		Dispatch Change - Menasha	U.S.	Dispatching changes only
		Renewable Energy Projects - Photovoltaic	U.S.	Increase in low-emitting capacity
		Biomass Facility	U.S.	Increase in low-emitting capacity
		Microturbine Facility (K)	U.S.	Increase in low-emitting capacity
		Microturbine Facility (SP)	U.S.	Increase in low-emitting capacity
		Wind Turbines	U.S.	Increase in low-emitting capacity
		Appliance Turn-In Reward (All Appliances)	U.S.	Equipment and appliances improvement or replacement
		Central AC Tune-Up Discount	U.S.	Heating, ventilation, and air conditioning
		Efficiency Improvement Incentive Program	U.S.	General energy use
		Energy Star Bulb Giveaway (15,20, & 23 W)	U.S.	Lighting and lighting control
		Energy Star Partners - CFLs	U.S.	Lighting and lighting control
		Energy Star Partners - Torchieres	U.S.	Lighting and lighting control
		Energy Star Partners - Fixtures	U.S.	Lighting and lighting control
		Energy Star Partners - Clothes Washers	U.S.	Equipment and appliances improvement or replacement
		Energy Star Partners - Refrigerators	U.S.	Equipment and appliances improvement or replacement
		Energy Star Partners - Dishwashers	U.S.	Equipment and appliances improvement or replacement
		Energy Star Partners - Dehumidifiers	U.S.	Equipment and appliances improvement or replacement
		Energy Star Partners - Room Air Conditioners	U.S.	Heating, ventilation, and air conditioning
		Energy Star Partners - Room Air Conditioner Turn-In	U.S.	Equipment and appliances improvement or replacement
		Home Energy Check-Up - CFLs	U.S.	Lighting and lighting control
		Home Energy Check-Up - Water Heater Wrap	U.S.	Equipment and appliances improvement or replacement
		Home Energy Check-Up - Pipe Insulation	U.S.	General energy use
		Home Energy Check-Up - Low-Flow Showerheads	U.S.	Equipment and appliances improvement or replacement
		Home Energy Check-Up - Faucet Aerators	U.S.	Equipment and appliances improvement or replacement
		Home Performance with ENERGY STAR	U.S.	General energy use
		LED Exit Sign Replacement	U.S.	Lighting and lighting control
		LED Traffic Signal Replacement	U.S.	Lighting and lighting control
		Wisconsin Energy Star Homes	U.S.	General energy use
		Air Conditioner Rebate	U.S.	Equipment and appliances improvement or replacement
		Appliance Rebate Program	U.S.	Equipment and appliances improvement or replacement
		Conservation Kits - CFLs	U.S.	Lighting and lighting control
		Conservation Kits - Low-Flow Showerheads	U.S.	Equipment and appliances improvement or replacement
		Conservation Kits - Faucet Aerators	U.S.	Equipment and appliances improvement or replacement
		Energy Conservation Incentive - Energy Star Windows	U.S.	Heating, ventilation, and air conditioning
		Home Remodeling Grant - Energy Star Windows	U.S.	Heating, ventilation, and air conditioning
		Home Remodeling Grant - Wall Insulation	U.S.	Building shell improvement
		Residential Efficiency Incentive - Energy Star Windows	U.S.	Heating, ventilation, and air conditioning
		Commercial Industrial Farm Program	U.S.	General energy use
		98-2001 Energy Education	U.S.	General energy use
		Appliance Turn In	U.S.	Equipment and appliances improvement or replacement
		Central AC Tune Up	U.S.	Heating, ventilation, and air conditioning
		Efficiency Improvement	U.S.	General energy use
		Energy Star Bulb Give Away	U.S.	Lighting and lighting control
		Energy Star Partners	U.S.	General energy use
		Home Energy Check ups	U.S.	General energy use
		Refrigerator Replacement Program	U.S.	Equipment and appliances improvement or replacement
		Home Weatherization Program	U.S.	Heating, ventilation, and air conditioning
		Residential Appliance Program	U.S.	Equipment and appliances improvement or replacement
		Street Lighting	U.S.	Lighting and lighting control
		Energy Star Appliances Front Load Clothes Washer	U.S.	Equipment and appliances improvement or replacement
		Energy Star Appliances Refrigerators	U.S.	Equipment and appliances improvement or replacement
		Energy Star Appliances Dishwashers	U.S.	Equipment and appliances improvement or replacement
		Energy Star Lighting - CFL	U.S.	Lighting and lighting control
		Energy Star Lighting - CF FIXTURES	U.S.	Lighting and lighting control
		Energy Star Lighting - CF LAMP TORCHIERES	U.S.	Lighting and lighting control
		Energy Education - 2002	U.S.	General energy use
		Tree Power (1991 - 2002 Plantings)	U.S.	Afforestation

Table B9. Emission Reduction Projects by Entity, Data Year 2002 (Continued)

Reporter	Form Type	Project	Location	Project Type
Xcel Energy	1605	Wind power--NSP	U.S.	Increase in low-emitting capacity
		Nuclear capacity increase--NMC	U.S.	Heat rate or other efficiency improvement
		Nuclear capacity increase--NMC	U.S.	Increase in low-emitting capacity
		Demand side management (electric)--NSP	U.S.	Equipment and appliances improvement or replacement
		Demand side management (electric)--NSP	U.S.	Lighting and lighting control
		Demand side management (electric)--NSP	U.S.	Load control
		Demand side management (electric)--NSP	U.S.	Heating, ventilation, and air conditioning
		Demand side management (electric)--NSP	U.S.	Building shell improvement
		Demand side management (electric)--NSP	U.S.	Motor and motor drive
		Green Lights	U.S.	Lighting and lighting control
		Appliance Recycling	U.S.	Reclamation: Recycling
		Coal ash utilization-NSP	U.S.	Coal ash reuse
		Transmission Upgrade for hydro capacity--NSP	U.S.	Zero/Low Emission Power Purchases
		Nuclear capacity increase 2--NMC	U.S.	Heat rate or other efficiency improvement
		Nuclear capacity increase 2--NMC	U.S.	Increase in low-emitting capacity
		Nuclear capacity restoration--NMC	U.S.	Heat rate or other efficiency improvement
		Chippewa Falls Hydro expansion--NSP-WI	U.S.	Increase in low-emitting capacity
		Low Income Refrigerator Replacement	U.S.	Reclamation: Recycling
		Transmission upgrade--NSP	U.S.	Distribution voltage upgrade
		Transmission upgrade 2--NSP	U.S.	Distribution voltage upgrade
		Wheaton Plant conversion--NSP-WI	U.S.	Fuel switching
		Recycling program-NSP	U.S.	Materials recycling/reuse
		Nuclear Capacity Increase - Rerated--NMC	U.S.	Increase in low-emitting capacity
		Nuclear Capacity Increase 3--NMC	U.S.	Heat rate or other efficiency improvement
		Nuclear Capacity Increase 3--NMC	U.S.	Increase in low-emitting capacity
		Sioux Falls area transmission upgrades--NSP	U.S.	Distribution voltage upgrade
		Refuse-derived fuel-NSP	U.S.	Other waste facility
		Landfill Gas Purchase--NSP	U.S.	Zero/Low Emission Power Purchases
		Recycling Program--SPS	U.S.	Materials recycling/reuse
		Coal Ash Utilization-SPS	U.S.	Coal ash reuse
		Coal Ash Utilization-PSCo	U.S.	Coal ash reuse
		Recycling Program--PSCo	U.S.	Materials recycling/reuse
		Demand Side Management (electric)--PSCo	U.S.	Equipment and appliances improvement or replacement
		Demand Side Management (electric)--PSCo	U.S.	Lighting and lighting control
		Demand Side Management (electric)--PSCo	U.S.	Heating, ventilation, and air conditioning
		Demand Side Management (electric)--PSCo	U.S.	Building shell improvement
		Demand Side Management (electric)--PSCo	U.S.	Industrial power systems
		Buffalo Ridge 1--NSP	U.S.	Increase in low-emitting capacity
		Buffalo Ridge 2--NSP	U.S.	Increase in low-emitting capacity
		Buffalo Ridge 3--NSP	U.S.	Increase in low-emitting capacity
		Lakota Ridge (Wind Power)-- NSP	U.S.	Increase in low-emitting capacity
		Shaokatan Hills (Wind Power)--NSP	U.S.	Increase in low-emitting capacity
		Woodstock Windfarms (Wind Power)--NSP	U.S.	Increase in low-emitting capacity
		Ponnequin (Wind Power)--PSCo	U.S.	Increase in low-emitting capacity
		New Mexico (Wind Power)--SPS	U.S.	Increase in low-emitting capacity
		Foote Creek (Wind Power)--PSCo	U.S.	Increase in low-emitting capacity
		Texas - Whitedeer (wind power)--SPS	U.S.	Zero/Low Emission Power Purchases
		Remaining Wind Projects--NSP	U.S.	Zero/Low Emission Power Purchases
		Peetz Wind Farm (Wind Power)--PSCo	U.S.	Increase in low-emitting capacity
		Demand Side Management - Xcel Energy (SPS)	U.S.	Equipment and appliances improvement or replacement
Zeeland Board of Public Works	1605EZ	Other Trans and Dist Improvements	U.S.	Other transmission & distribution improvements
		General Trans & Dist	U.S.	General transmission and distribution
		Urban Forestry	U.S.	Urban Forestry (sequestration only)

Notes: [p] Indicates that the report has Preliminary status, meaning the initial submission has been reviewed by EIA but a final version has not been accepted.
Source: Energy Information Administration, Forms 1605 and 1605EZ
This table excludes data reported as confidential

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002

Project Section & Reporter Name	Form Type	Project	Location
Electricity Generation, Transmission, and Distribution			
A&N Electric Cooperative	1605	Transmission and Distribution Efficiency Improvements	U.S.
Advanced Micro Devices	1605EZ	Second Austin Energy GreenChoice Subscription	U.S.
Alabama Biomass Partners, Ltd	1605EZ	Biomass Waste to Energy	U.S.
Allegheny Energy, Inc.	1605	Adjustable Speed Drives for PA Fans - Hatfield's Ferry P.S.	U.S.
		Application of Capacitors	U.S.
		Armstrong Boiler No. 1 Emissions Reduction Project	U.S.
		Armstrong Boiler No. 2 Emissions Reduction Project	U.S.
		Armstrong Unit 1 - Boiler Controls Replacement	U.S.
		Armstrong Unit 2 - Boiler Controls Replacement	U.S.
		Auxiliary Fuel Switching	U.S.
		Conversion to Higher Voltage Distribution	U.S.
		Economic Conductor Selection	U.S.
		Efficient Distribution Transformers	U.S.
		Energy Star Transformer Program	U.S.
		Harrison Unit #2 Boiler Controls Replacement	U.S.
		Harrison Unit #3 Boiler Controls Replacement	U.S.
		Harrison Unit #3 HP Turbine Rotor Replacement	U.S.
		Hatfield's Ferry Unit 1 - HP/IP Turbine Rotor Replacement	U.S.
		Hatfield's Ferry Unit 1 - LP Turbine Rotor Replacement	U.S.
		Hatfield's Ferry Unit 2 - HP/IP Turbine Rotor Replacement	U.S.
		Hatfield's Ferry Unit 2 LP Turbine Rotor Replacement	U.S.
		Hatfield's Ferry Unit 2 Natural Gas Reburn	U.S.
		Hatfield's Ferry Unit 3 - LP Turbine Rotor Replacement	U.S.
		Lake Lynn Hydro Electric Station Relicensing	U.S.
		Performance Monitoring Systems	U.S.
		Pleasants Unit 2 - Boiler Controls Replacement	U.S.
		Potomac Edison 138/500 kV System Split	U.S.
		R. P. Smith Unit 4 - Boiler Controls Replacement	U.S.
		Replace Small Primary Conductors	U.S.
		Rivesville Unit 6 - High Pressure Turbine Rotor Replacement	U.S.
		Rivesville Unit No. 6 - Boiler Controls Replacement	U.S.
		Small Hydroelectric Station Relicensing	U.S.
		Willow Island Unit 1- Low Pressure Turbine Rotor Replacement	U.S.
		Willow Island Unit 2 Boiler Controls Replacement	U.S.
		Wire Replacement on Transmission Lines	U.S.
Alliant Energy	1605	Berlin Landfill	U.S.
		Cedar Rapids Landfill (IES)	U.S.
		Columbia 1&2 Turbine Efficiency	U.S.
		Deer Ridge Dairy	U.S.
		Double S Dairy	U.S.
		Mallard Ridge Landfill	U.S.
		Minergy Waste Generation	U.S.
		SFDL Fuel Switching	U.S.
		Superior Glacier Ridge Landfill	U.S.
		Switchgrass Cofiring	U.S.
		Tire Derived Fuel Generation	U.S.
		Transmission line improvements	U.S.
		Verona Landfill	U.S.
		Wind Power-Iowa	U.S.
		Wind Power-Wisconsin	U.S.
Ameren Corporation (formerly UE and CIPS)	1605	Conversion to a dry flyash handling system.	U.S.
		Increased Nuclear generation	U.S.
		Install adjustible speed fan drives replacing fixed speed	U.S.
		Meramec Power Plant Control Upgrade	U.S.
		Replaced motor-generator exciters with static exciter system	U.S.
		Sioux Plant Control Upgrade	U.S.
		Subtransmission Reconductoring	U.S.
		Transformer Replacement	U.S.
		Waste Oil Heat Recovery	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
American Electric Power, Inc.	1605	ClearChoice(sm) Green Pricing Initiative: AEP-West	U.S.
		Distribution System Equipment Improvements	U.S.
		Fuel Switch Coal to Natural Gas (Conesville Unit 1-3)	U.S.
		Heat Rate Improvement (Due to improved load optimization)	U.S.
		Heat Rate Improvement Projects (Oper. and Equip. Changes)	U.S.
		Hydroelectric Facility Improvements: AEP-East	U.S.
		Nuclear Plant Improved Utilization	U.S.
		Open-Loop Transmission Groundwire Resistive Loss Reduction	U.S.
		Renewable Generation - Solar	U.S.
		Renewable Generation - Wind: AEP-East	U.S.
		Renewable Generation - Wind: AEP-West	U.S.
		Southwest Mesa Wind Farm	U.S.
		Transmission Efficiency Improvements: AEP-West	U.S.
		Transmission System Reinforcements	U.S.
		Watts on Schools	U.S.
Anoka Municipal Utility	1605EZ	Wind Generation	U.S.
Arizona Electric Power Cooperative, Inc.	1605EZ	Condensate pump upgrade	U.S.
		Distributive Control System installed on Steam Unit 3 (coal-	U.S.
BARC Electric Cooperative	1605	System Line Conversions and Reconductoring	U.S.
Berkshire Power LLC	1605	Natural gas fired electric generation	U.S.
Biomass Partners, LP	1605EZ	Biomass Waste to Energy	U.S.
Bountiful City Light & Power	1605	Air fuel ratio controller installed in dual fuel engine	U.S.
		Capacitor bank installation - increasing system efficiency	U.S.
		Hydroelectric plant operations	U.S.
Carolina Power & Light Company	1605	Nuclear Capacity Improvement	U.S.
Choptank Electric Cooperative	1605	System Line Conversions and Reconductoring	U.S.
Cinergy Corp.	1605	Cayuga Heat Rate Improvements	U.S.
		Gibson Performance Maximization Program	U.S.
		Merger Dispatch Savings	U.S.
		Wabash River Heat Rate Improvement	U.S.
City of Austin Electric Utility (Austin Energy)	1605EZ	General Transmission/Distribution Efficiency Improvements	U.S.
		South Texas Project	U.S.
		West Texas Wind Power Purchase	U.S.
City of Edmond, Oklahoma, Electric Department	1605EZ	High Efficiency Transformers	U.S.
City of Klamath Falls- Cogen	1605	FOSSIL FUEL DISPLACEMENT THROUGH COALBED METHANE UTILIZATION	U.S.
		SOLAR RURAL ELECTRIFICATION WITH PHOTOVOLTAICS IN ASIA	Foreign
City Public Service	1605	Desert Sky Wind Turbine Power Purchase	U.S.
		South Texas Project Nuclear Operating Company	U.S.
City Utilities of Springfield	1605	HEAT RATE IMPROVEMENTS - SWPS	U.S.
		LOW SULFUR FUEL SWITCH - SWPS	U.S.
		Wind Energy offering	U.S.
Community Electric Cooperative	1605	System Line Conversion and Reconductoring	U.S.
Conectiv Atlantic Generation (CAG)	1605	Deepwater Natural Gas Usage	U.S.
		Peach Bottom Nuclear Units #2 & 3 Uprate Program	U.S.
Conectiv Delmarva Generation	1605	Edge Moor Fuel Substitution	U.S.
		Hay Road Combined Cycle	U.S.
		Peach Bottom Nuclear Units #2 & #3 Uprate Program	U.S.
		T&D Loss Reduction	U.S.
Consolidated Edison Company of New York, Inc.	1605	Arthur Kill - Fuel Switching to Natural Gas	U.S.
Constellation Energy Group, Inc	1605	Baltimore RESCO Waste-to-Energy MWh Purchases	U.S.
		Brandon Shores Generating Station Heat Rate Improvement	U.S.
		C.P. Crane Generating Station Heat Rate Improvements	U.S.
		Calvert Cliffs Nuclear Power Plant Generation Increases	U.S.
		H.A. Wagner Generating Station Heat Rate Improvements	U.S.
		Hydroelectric Generation Improvements	U.S.
		Nine Mile Pt Nuclear Generating Improvements	U.S.
		Transmission / Distribution Improvements	U.S.
Delaware Electric Cooperative	1605	System Line Conversions & Reconductoring	U.S.
Dominion Generation	1605	Increased Nuclear Generation at North Anna Nuclear Power St.	U.S.
		Increased Nuclear Generation at Surry Power Station	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
DTE Energy/ Detroit Edison	1605	Distribution Improvements	U.S.
		Greenwood Energy Center Fuel Switching	U.S.
		Increased Nuclear Utilization	U.S.
		Plant Efficiency Improvements	U.S.
		Solar Power - California	U.S.
		Solar Power - Michigan	U.S.
Duke Energy Corporation	1605	Improved Hydro Efficiency at Dearborn Hydro	U.S.
		Improved Hydro efficiency at Fishing Creek Hydro	U.S.
		Improved Hydro Efficiency at Lookout Shoals Hydro	U.S.
		Improved Hydro Efficiency at Oxford Hydro	U.S.
		Improved Hydro Efficiency at Wylie Hydro	U.S.
		Improved Hydro Eficiency at Wateree Hydro	U.S.
		Increased Nuclear Generation at Catawba Nuclear Station	U.S.
		Increased Nuclear Generation at McGuire Nuclear Station	U.S.
		Increased Nuclear Generation at Oconee Nuclear Station	U.S.
Dynegy Midwest Generation Inc.	1605	Add Turbine Shell Heaters on Wood River 4	U.S.
		Baldwin 2 Turbine H.E.L.P. Blades Installation	U.S.
		Baldwin 3 Heat Rate Improvement	U.S.
		Burn Waste Oil at Baldwin 3	U.S.
		Cofire Plastic at Baldwin	U.S.
		Combustion of used lubricating oil	U.S.
		Convert Vermilion Units 1 And 2 To Natural Gas	U.S.
		Fuel Switch To Natural Gas at Hennepin	U.S.
		Fuel Switch To Natural Gas at Wood River	U.S.
		Havana 6 Cooling Tower Upgrade	U.S.
		Hennepin Boiler Optimizer	U.S.
		Hennepin Feedwater Heater Orifice Replacements	U.S.
		Hennepin Gas Reburn Project	U.S.
		Hennepin I Turbine Steam Path Upgrade	U.S.
		Hennepin Orimulsion Reburn	U.S.
		Install Natural Gas Fired Aux. Boiler at Havana	U.S.
		New Boiler Controls at Hennepin	U.S.
		Reduce Number of Plant Start-ups	U.S.
		Tire-Derived Fuel Cofiring at Baldwin	U.S.
		Vermilion 1 Heat Rate Improvements	U.S.
		Vermilion 2 Heat Rate Improvements	U.S.
		Wood River 4 Turbine Rotor Replacement	U.S.
Energy Management Partners, LP	1605EZ	Biomass Waste to Energy	U.S.
Entergy Services, Inc.	1605	Grand Gulf Nuclear Station Turbine Upgrade	U.S.
		Independence 1 Burner Tilt Upgrade	U.S.
		Independence 2 APH Basket & Turbine Refurbish	U.S.
		Independence Unit 1 Feedwater Heater Replacement	U.S.
		Lake Catherine Unit 4 Efficiency Improvement Project	U.S.
		Lewis Creek Combustion Control	U.S.
		Little Gypsy Unit 3 #6LP Feedwater Heater Replacement	U.S.
		Louisiana Station 1 Repowering and Unit Upgrade	U.S.
		Michoud Unit 3 Efficiency Improvement Project	U.S.
		Ninemile Turbine Retrofit	U.S.
		Raise Nuclear Unit Targets on Annual Capacity Factor	U.S.
		Ritchie 1, No. 1 Condenser Retubing	U.S.
		Sabine 2 Furnace Membrane	U.S.
		Sabine 4 - 4C & 4D Condneser Retubing	U.S.
		Sabine Unit 2 Feedwater Heater Replacement	U.S.
		Transmission and Distribution Efficiency	U.S.
		Vidalia Hydroelectric Station	U.S.
		White Bluff 2 Aux Fuel Air Dampers	U.S.
		White Bluff Unit 1 Feedwater Heater Replacement	U.S.
		White Bluff Unit 2 Feedwater Heaters Replacement	U.S.
		Willow Glen Unit 3 #2B Feedwater Heater Replacment	U.S.
		Willow Glen Unit 5 Air Heater Replacement Project	U.S.
		Willow Glen Unit 5 Kidney Trap Replacement	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Exelon Corporation	1605	Chicago Public School Solar Partnership	U.S.
		ComEd North Commercial Center - Solar Panels	U.S.
		High Efficiency Transformers	U.S.
		International Brotherhood of Electrical Workers Solar Panels	U.S.
		Overhaul of Conowingo Unit 10	U.S.
		Overhaul of Conowingo Unit 5	U.S.
		Overhaul of Conowingo Unit 8	U.S.
		Overhaul of Conowingo Unit 9	U.S.
		Overhaul of Muddy Run Units 5-8	U.S.
		Rerate of Peach Bottom Unit 2	U.S.
		Rerate of Braidwood Unit 1	U.S.
		Rerate of Byron Unit 1	U.S.
		Rerate of Byron Unit 2	U.S.
		Rerate of Lasalle Unit 1	U.S.
		Rerate of Lasalle Unit 2	U.S.
		Rerate of Limerick Unit 1	U.S.
		Rerate of Limerick Unit 2	U.S.
		Rerate of Peach Bottom Unit 3	U.S.
		Rerate of Quad Cities Unit 2	U.S.
		Wind and Photovoltaic Generation Pricing Experiment	U.S.
		Wind Power Marketing in Pennsylvania	U.S.
		Zion Power House Windmill	U.S.
FirstEnergy Corporation	1605	Fuel Switching	U.S.
		Heat Rate Improvement	U.S.
		Increased Generation at Beaver Valley Nuclear Power Station	U.S.
		Increased Generation at Davis-Besse Nuclear Power Station	U.S.
		Increased Generation at Perry Nuclear Power Plant	U.S.
		Shunt Capacitor Program	U.S.
		T & D System Improvements	U.S.
		Transformer Loss Evaluation Program	U.S.
		Yards Creek Pumped Storage Upgrade	U.S.
FPL Group	1605	Cape Canaveral Boiler Enhansements and Controls Upgrades	U.S.
		Fort Myers LP Turbine Improvements	U.S.
		FPL Energy Renewable Projects - Hydro	U.S.
		FPLE East Mesa Geothermal Projects	U.S.
		FPLE Renewable Projects - Wind	U.S.
		Gas Expansion Project	U.S.
		Manatee Plant Low NOx Burners	U.S.
		Martin Plant LP turbine Improvements	U.S.
		Nuclear Generation Improvement	U.S.
		Port Everglades Unit 4 Efficiency Improvement Project	U.S.
		Putnam Plant Unit 1-2 HRSG replacement	U.S.
		Radio Controlled Capacitor System (RCCS)	U.S.
		Riviera Plant Boiler enhansements, Controls Upgrade, LP Turb	U.S.
		Sanford Plant Blr & Controls Updgrades, LP Turbine	U.S.
		Sanford Power Plant Fuel Switching	U.S.
		SEGS VIII & IX - solar	U.S.
		Turkey Point Fossil Power Plt Blr, Controls, Turbine Improve	U.S.
Golden Valley Electric Association, Inc	1605EZ	Use of Hydropower	U.S.
JEA	1605EZ	Fuel Switching - Landfill Gas	U.S.
		Fuel Switching - Natural Gas	U.S.
		Photovoltaic Systems	U.S.
Johnson & Johnson	1605	On-site Renewable Energy - Solar	U.S.
Kansas City Power & Light Company	1605	Improve heat rate	U.S.
		New Transmission Line & Reconductoring	U.S.
		Nuclear Unit Uprate	U.S.
Los Angeles Department of Water and Power	1605	Energy Efficient Transformers	U.S.
		Fuel Switching (Fuel Oil #6 to Natural Gas)	U.S.
		Solar Power	U.S.
Lower Colorado River Authority	1605	Hydroelectric Dam Modernization	U.S.
		Neural-Network Technology	U.S.
		Supply-Side Efficiency Improvements	U.S.
		Wind Power Project	U.S.
Mecklenburg Electric Cooperative	1605	System Line Conversion and Reconductoring	U.S.
Minnesota Power	1605	Expanded Generation from Existing Hydro Electric Resources	U.S.
		Heat Rate Improvements, Boswell Energy Center	U.S.
		Mud Lake Substation - Reduced Transmission Losses	U.S.
		Wind Sense Wind Energy Program	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Municipal Electric Auth of Georgia (MEAG Power)	1605	Nuclear Generation Utilization	U.S.
Nashville Electric Service	1605EZ	Distribution Voltage Upgrade	U.S.
		High-efficiency transformers	U.S.
National Grid USA	1605	Amorphous Metal Core Transformers	U.S.
		Cowley Ridge Windplant	Foreign
		Distribution Reconductoring	U.S.
		Distribution Voltage Upgrade	U.S.
		Installation & Operation of Photovoltaic Energy Systems - NY	U.S.
		Installation and Operation of Wind Turbines	U.S.
		Nuclear Generation Capacity Improvements	U.S.
		Nuclear Generation Performance Improvements	U.S.
		Partial Conversion of Oil-Fired Plant to Natural Gas	U.S.
		Photovoltaic - New England	U.S.
		Transmission Reconductoring	U.S.
Nebraska Public Power District	1605EZ	1994-1996 Distribution Improvements	U.S.
		1994-1997 Transformer Changeouts	U.S.
		Nuclear Plant Improved Utilization	U.S.
		Plant Efficiency Improvements	U.S.
		SF6 Gas Circuit Breaker Leak Detection and Repair	U.S.
		Wind Turbines	U.S.
NiSource/NIPSCO	1605	Biomass Initiative	U.S.
		Capacitor Additions	U.S.
		Low Loss Transformers	U.S.
North American Carbon, Inc.	1605	Glendale Hydroelectric Project	U.S.
		Lower Saranac Hydroelectric Project	U.S.
		Star Lake Hydroelectric Project	Foreign
North Carolina Biomass Partners	1605EZ	Biomass Waste to Energy	U.S.
North Carolina Electric Membership Corporation	1605EZ	Switch Away from Fossil Fuel Generated Power Purchases	U.S.
Northern Neck Electric Cooperative	1605	System Line Conversion and Reconductoring	U.S.
Northern Virginia Electric Cooperative	1605	System Line Conversions and Reconductoring	U.S.
Omaha Public Power District	1605EZ	Coal Heat Rate Improvement	U.S.
		Nuclear Capacity Factor Improvement	U.S.
		T&D Capacitor Installations	U.S.
Orlando Utilities Commission (OUC)	1605EZ	Landfill Gas to Energy	U.S.
PG&E Corporation	1605	Brayton Point Station Unit No. 4 Gas Conversion	U.S.
		Brayton Point Station Units No. 1, 2, 3 Natural Gas Usage	U.S.
		Madison Windpower	U.S.
		Manchester Street Repowering	U.S.
		Natural Gas Substitution for Residual Oil	U.S.
		Power Purchases from Natural Gas Generation	U.S.
		Wind Turbines in Mountain View, CA	U.S.
Platte River Power Authority & 4 Owner Cities	1605	Estes Park Low-Loss Transformers	U.S.
		Fort Collins Distribution System Improvements	U.S.
		Longmont Distribution System Improvements	U.S.
		Longmont Hydro Project Upgrades	U.S.
		Loveland Hydroelectric Plant	U.S.
		PRPA Heat Rate Improvements at Craig Powerplant	U.S.
		PRPA Photovoltaic Project	U.S.
		PRPA Wind Power Project	U.S.
Portland General Electric Co.	1605	1995 Colstrip Units 3&4 Ruggedizing	U.S.
		Beaver Efficiency Improvements	U.S.
		Boardman Efficiency Improvements	U.S.
		Building Rooftop Photovoltaic Systems	U.S.
		Bull Run Turbine Runner Replacements	U.S.
		Coyote Springs Efficiency Improvements	U.S.
		Faraday Efficiency Improvements 2002	U.S.
		Faraday Units 4&5 1994	U.S.
		North Fork Hydro Improvements	U.S.
		Oak Grove Turbine Runner Replacements - 1991 - Units 1&2	U.S.
		River Mill Efficiency Improvements	U.S.
		Round Butte	U.S.
		Sullivan turbine rebuilds	U.S.
		T&D: Power Factor Correction Capacitors	U.S.
		Transformer Efficiency Improvements	U.S.
		Vansycle Ridge Wind Generation	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Prince George Electric Cooperative	1605	Transmission and Dist. Efficiency Improvements	U.S.
Public Service Company of New Mexico	1605	Heat Rate Improvements at San Juan Generating Station	U.S.
		Palo Verde Generation Increase	U.S.
Public Service Enterprise Group	1605	Electric Generation from Landfill Gas	U.S.
		Hydro Projects - United States	U.S.
Public Utility District No. 1 of Snohomish County	1605	Conservation Voltage Reduction	U.S.
		Transmission Networking and Reconductoring	U.S.
Rappahannock Electric Cooperative	1605	System Line Conversions and Reconductoring	U.S.
Sacramento Municipal Utility District	1605	PV Pioneer	U.S.
Salt River Project	1605EZ	Cooperative Photovoltaic Power Plants	U.S.
		Heat Rate Improvements	U.S.
		Palo Verde Nuclear Station Capacity Factor Increase	U.S.
		Palo Verde Nuclear Station Capacity Increases	U.S.
Santee Cooper	1605	Cross Unit 1 Turbine Retrofit	U.S.
		Cross Unit 2 Retrofit	U.S.
		Summer Nuclear Upgrade	U.S.
		Winyah Unit 1 Turbine Retrofit	U.S.
		Winyah Unit 2 Turbine Retrofit	U.S.
		Winyah Unit 3 Turbine Retrofit	U.S.
		Winyah Unit 4 Turbine Retrofit	U.S.
Seattle City Light	1605	4kV to 26kV Distribution System Conversion	U.S.
		Cedar Falls turbine runner replacement	U.S.
		Diablo Dam turbine runner replacement	U.S.
		Gorge Dam turbine runner replacement	U.S.
		Ross Dam turbine runner replacement	U.S.
		South Fork Tolt River hydroelectric project	U.S.
SeaWest WindPower, Inc.	1605	Altech Energy III	U.S.
		Condon Wind Power, LLC	U.S.
		Foote Creek I, LLC	U.S.
		Foote Creek II, LLC	U.S.
		Foote Creek III, LLC	U.S.
		Foote Creek IV, LLC	U.S.
		Mountain View Power Partners II, LLC	U.S.
		Mountain View Power Partners, LLC	U.S.
		Rock River I, LLC	U.S.
		San Gorgonio Westwinds II, LLC	U.S.
Seminole Electric Cooperative, Inc.	1605EZ	Heat Rate Improvement	U.S.
		Transmission Conductor Optimization	U.S.
Shenandoah Valley Electric Cooperative	1605	System Line Conversions and Reconductoring	U.S.
Shrewsbury Electric Light Plant	1605EZ	High Efficiency Transformer	U.S.
South Carolina Electric & Gas Company	1605	Misc. Plant efficiency improvements	U.S.
		Summer Nuclear Upgrade	U.S.
		Urquhart Repowering Project	U.S.
		Wateree Station heat rate improvement	U.S.
		Williams Station improvements	U.S.
Southeastern Biomass Partners, LP	1605EZ	Biomass Waste to Energy	U.S.
Southern California Edison Co.	1605	Renewable Energy Purchases - Small Hydro	U.S.
		Mohave Power Project Heat Rate Improvement Program	U.S.
		Palo Verde Availability Improvement	U.S.
		Renewable Energy Purchases - Biomass	U.S.
		Renewable Energy Purchases - Geothermal	U.S.
		Renewable Energy Purchases - Wind	U.S.
		Repowering of Hydro Generation Units	U.S.
		San Onofre Availability Improvements	U.S.
Southern Company[p]	1605	Biomass	U.S.
		Bulk Power Transmission Improvements	U.S.
		Combined-Cycle Units	U.S.
		Farley Nuclear Plant Availability Improvements	U.S.
		Farley Nuclear Plant Uprate	U.S.
		Gas Capability at Watson 4 and 5	U.S.
		Gas Capability at Plant McDonough	U.S.
		Gas Capability at Plant Yates	U.S.
		Hatch Nuclear Plant Availability Improvements	U.S.
		Hatch Nuclear Plant Capacity Uprate	U.S.
		Heat Rate Improvement on Coal-Fired Capacity	U.S.
		New Combustion Turbines	U.S.
		Switchgrass	U.S.
		Vogtle Electric Generating Plant (Nuclear) Capacity Uprate	U.S.
		Vogtle Electric Generating Plant Availability Improvements	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Southside Electric Cooperative	1605	System Line Conversion and Reconductoring	U.S.
Steuben Rural Electric Co-op	1605EZ	1994 Distribution Line Replacement	U.S.
		1995 Distribution Line Replacement	U.S.
		1996 Conductor Replacement	U.S.
		1997 Conductor Replacement	U.S.
		2002 Substation Efficiency Improvement	U.S.
Tacoma Power	1605EZ	Generator Improvement (Cushman/Nisqually)	U.S.
		Generator Improvement (Wynoochee)	U.S.
Tennessee Valley Authority	1605	Green Power Switch	U.S.
		Heat Rate Improvements At TVA Coal Fired Generating Units	U.S.
		Hydro Unit Modernization	U.S.
		Return Browns Ferry Nuclear Units 2 and 3 to Service	U.S.
		Start Watts Bar Nuclear Unit 1	U.S.
		Transmission System Efficiency Improvements	U.S.
		Wood Waste Cofiring At Coal Fired Generating Plants	U.S.
Texas Genco, LP	1605	GT PRIME	U.S.
Tucson Electric Power Company	1605	Landfill Gas (Fuel Switching) Project	U.S.
		Solar Electric - Photovoltaic	U.S.
TXU	1605	Lignite and Western Coal Blending	U.S.
		Operation of Nuclear Generation Units	U.S.
		Power Plant Heat Rate Improvement Projects	U.S.
		Renewable Energy Development Projects	U.S.
Utah Municipal Power Agency	1605EZ	Geothermal Power	U.S.
		Low Loss Transformers	U.S.
		Wind Power	U.S.
Vermont Public Power Supply Authority	1605	Swanton Village Hydro Expansion	U.S.
		Transmission and Distribution System Efficiency Improvements	U.S.
Waverly Light & Power Company	1605	Distribution System Upgrade (Project 3)	U.S.
		Hydro (Project 2)	U.S.
		Low-Loss Transformers (Project 4)	U.S.
		Wind Turbine (Project 1)	U.S.
We Energies	1605	Ag Biomass Generation	U.S.
		Badger Windpower Purchases	U.S.
		Energy for Tomorrow(TM) Renewable Energy Program	U.S.
		Fossil plant heat rate improvements	U.S.
		Hydro plant improvements and additions	U.S.
		Increased Nuclear Capacity at Point Beach Nuclear Plant	U.S.
		Transmission & distribution system loss reductions	U.S.
Wisconsin Public Power Inc.	1605EZ	Biomass Facility	U.S.
		Boswell Heat Rate Reduction	U.S.
		Dispatch Change - Menasha	U.S.
		Kaukauna CT I&C Upgrade	U.S.
		Microturbine Facility (K)	U.S.
		Microturbine Facility (SP)	U.S.
		Renewable Energy Demonstrations- PV Project	U.S.
		Renewable Energy Projects - Hydroelectric	U.S.
		Renewable Energy Projects - Photovoltaic	U.S.
		Wind Turbines	U.S.
Xcel Energy	1605	Buffalo Ridge 1--NSP	U.S.
		Buffalo Ridge 2--NSP	U.S.
		Buffalo Ridge 3--NSP	U.S.
		Chippewa Falls Hydro expansion--NSP-WI	U.S.
		Foote Creek (Wind Power)--PSCo	U.S.
		Lakota Ridge (Wind Power)-- NSP	U.S.
		Landfill Gas Purchase--NSP	U.S.
		New Mexico (Wind Power)--SPS	U.S.
		Nuclear Capacity Increase - Rerated--NMC	U.S.
		Nuclear capacity increase 2--NMC	U.S.
		Nuclear Capacity Increase 3--NMC	U.S.
		Nuclear capacity increase--NMC	U.S.
		Nuclear capacity restoration--NMC	U.S.
		Peetz Wind Farm (Wind Power)--PSCo	U.S.
		Ponnequin (Wind Power)--PSCo	U.S.
		Remaining Wind Projects--NSP	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
		Shaokatan Hills (Wind Power)--NSP	U.S.
		Sioux Falls area transmission upgrades--NSP	U.S.
		Texas - Whitedeer (wind power)--SPS	U.S.
		Transmission upgrade 2--NSP	U.S.
		Transmission Upgrade for hydro capacity--NSP	U.S.
		Transmission upgrade--NSP	U.S.
		Wheaton Plant conversion--NSP-WI	U.S.
		Wind power--NSP	U.S.
		Woodstock Windfarms (Wind Power)--NSP	U.S.
Zeeland Board of Public Works	1605EZ	General Trans & Dist	U.S.
		Other Trans and Dist Improvements	U.S.
Cogeneration and Waste Heat Recovery			
Bountiful City Light & Power	1605	District heating	U.S.
Burlington County Board of Chosen Freeholders[p]	1605	Demonstration Greenhouse Boiler (Gas to heat conversion)	U.S.
City of Klamath Falls- Cogen	1605	Cogeneration Steam Sales	U.S.
Conectiv Atlantic Generation (CAG)	1605	AGI - Pedricktown Cogeneration Limited Partnership	U.S.
		AGI - Vineland Cogeneration Facility	U.S.
Exelon Corporation	1605	Fuel Switching at Bynov Plant in Decin, Czech Republic	Foreign
Minnesota Power	1605	Cloquet Energy center Turbine Generation 5 (Sappi Ltd)	U.S.
NiSource/NIPSCO	1605	Fuel Switching at Bynov Plant in Decin, Czech Republic	Foreign
		Inland Steel -Northlake Energy	U.S.
		Ispat/Inland - Cokenergy	U.S.
		National Steel- Portside Energy	U.S.
		US Steel - Lakeside Energy	U.S.
		Whiting Clean Energy	U.S.
PEI Power Corp	1605	PEI Power	U.S.
Pharmacia & Upjohn Caribe Inc.	1605EZ	Thermal Oxidizer Waste Heat Boiler	U.S.
Rolls-Royce Corporation	1605	Co-Gen	U.S.
Southern Company[p]	1605	Chevron Cogenerating Plant - Unit 5	U.S.
		Theodore Cogeneration Facility	U.S.
		Washington County Cogeneration Plant	U.S.
Texas Genco, LP	1605	San Jacinto Steam Electric Generating Station	U.S.
We Energies	1605	Fuel switching at Bynov Plant in Decin, Czech Republic	Foreign
Energy End Use			
A&N Electric Cooperative	1605	Demand-Side Management Load Control Program	U.S.
Advanced Micro Devices	1605EZ	Diffusion Furnace Exhaust Reduction	U.S.
		Installation of New Chilled Water systems	U.S.
		Substitution of Etch Equipment Chilling Technology	U.S.
Allegheny Energy, Inc.	1605	Adjustable Speed Drives-Plastic Injection Molding Machines	U.S.
		Demand-Side Management Programs	U.S.
		Green Lights Utility Ally Program	U.S.
		High Pressure Sodium Vapor Streetlight Replacement Program	U.S.
Allergan, Inc.	1605	Acetone Catalytic Oxidizer Improvement	Foreign
		Add Variable Frequency Drive to Existing Chiller	U.S.
		Air Compressor System Upgrade	U.S.
		Allergan America Facility Closure	U.S.
		Allergan Brazil Building Management System Installation	Foreign
		Allergan Facility Divestiture	U.S.
		Allergan Italy Facility Closure	Foreign
		Allergan LOK Brazil Operation Consolidation	Foreign
		Allergan Medical Plastics Energy Managment System Upgrade	U.S.
		AMO Facility Closure	U.S.
		Chilled Water Decouple Loop	U.S.
		Chiller Replacement	U.S.
		Compressed Air Leak Repair	Foreign
		Compressor Replacement	U.S.
		Curtail Weekend Energy Usage	Foreign
		Direct Expansion Cooler Unit Redesign	U.S.
		Downsize Boiler to Meet Requirements	Foreign
		Elimination of Catalytic Thermal Oxidizer	U.S.
		Floor Fan Elimination	U.S.
		Install Bi-Level Lighting Controls on HID Lighting	U.S.
		Install Higher Efficiency Motors	U.S.
		Install Occupancy Sensors	U.S.
		Install On/Off Controller on Hot/Cold Water Pumps	U.S.
		Install Photoelectric Sensor on Grinder and Blowers	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
		Insulate Process Lines	Foreign
		Lighting Retrofits and Upgrades	U.S.
		Lighting Upgrade at Allergan Irvine	U.S.
		Motor Replacement Project	Foreign
		Reduce Air Compressor Discharge Pressure	U.S.
		Reduction in Operating Time for Blowmolding Equipment	Foreign
		Replace Existing Hot Water Boiler with Heat Exchanger	U.S.
		Replace Mercury Vapor Lamps with Fluorescent Lamps	Foreign
Alliant Energy	1605	Energy End Use - Electric IES	U.S.
		Energy End Use - Electric IPC	U.S.
		Energy End Use - Gas IES	U.S.
		Energy End Use - Gas IPC	U.S.
		Energy end use-Electric WP&L	U.S.
		Energy end use-Gas WP&L	U.S.
		Urban Forestry IES	U.S.
		Urban Forestry IPC	U.S.
		WP&L Green Lights Projects	U.S.
Ameren Corporation (formerly UE and CIPS)	1605	Demand Side Management Projects	U.S.
		EnviroTech Fund - Foreign	Foreign
		EnviroTech Fund - US	U.S.
		Meramec Power Plant Lighting Upgrade	U.S.
		Street Light Conversion	U.S.
American Electric Power, Inc.	1605	Commercial/Industrial DSM Programs: AEP-East	U.S.
		Demand Side Management Activities: AEP-West	U.S.
		Green Lights	U.S.
		Residential Demand Side Management Programs: AEP-East	U.S.
Anoka Municipal Utility	1605EZ	Central A/C Replacement	U.S.
		Demand Management	U.S.
		lighting replacement	U.S.
Arizona Electric Power Cooperative, Inc.	1605EZ	Lighting & Exit Sign Replacement	U.S.
AT&T	1605	Electricity Use Reduction Program	U.S.
BARC Electric Cooperative	1605	Demand-Side Management Load Control Programs	U.S.
Bountiful City Light & Power	1605	Residential compact fluorescent lighting program	U.S.
		Street lighting replacement	U.S.
Branson Ultrasonics Corporation	1605	Electrical Energy Consumption	U.S.
Cinergy Corp.	1605	Commercial Audit/Incentive Program	U.S.
		Commercial Direct Lighting	U.S.
		Commercial/Industrial Adjustable Speed Drive Plan	U.S.
		Commercial/Industrial High Efficiency Motors Plan	U.S.
		Commercial/Industrial Lighting Rebate Program	U.S.
		Commercial/Industrial Peak Reduction Program	U.S.
		Green Lights Program	U.S.
		Home Energy House Call	U.S.
		Industrial Efficiency Improvement & Energy Awareness Program	U.S.
		Planergy	U.S.
		Residential Energy Efficient Lighting Program	U.S.
		Residential Seal-Up & Low-Income Efficiency Program	U.S.
		Residential Smart $aver & Heat Pump Savings Programs	U.S.
		Residential Wrap-Up Program	U.S.
		Thermal Energy (Cool) Storage Program	U.S.
City of Austin Electric Utility (Austin Energy)	1605EZ	Demand Side Management Programs	U.S.
City of Edmond, Oklahoma, Electric Department	1605EZ	High Efficiency Heat Pumps	U.S.
City of Palo Alto	1605EZ	Commercial Energy Efficiency Program	U.S.
		Residential Energy Efficiency Program	U.S.
City Public Service	1605	Mow Down Smog	U.S.
		Streetlight Replacements	U.S.
		Wash Right Rebates	U.S.
CLE Resources	1605	Active Power	U.S.
		Electronic Lighting (OK Industries)	U.S.
		Industrial Devices Corporation (IDC)	U.S.
		Lightware	U.S.
		Revolve Technologies - Magnetic Bearings	U.S.
Conectiv Delmarva Generation	1605	Demand Side Management	U.S.
		DP&L Facility Energy Saving	U.S.
Constellation Energy Group, Inc	1605	Brandon Shores Station Auxiliary-Load Reductions	U.S.
		Demand Side Management Programs	U.S.
		Energy Star Buildings/Green Lights Program Participation	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
DaimlerChrysler Corporation	1605	Facility Energy Reduction Projects	U.S.
		Powerhouse Conversion Projects	U.S.
DeBourgh Manufacturing Company	1605EZ	Make Up Air Unit	U.S.
DTE Energy/ Detroit Edison	1605	Energy Partnerships	U.S.
		Geothermal Projects	U.S.
Entergy Services, Inc.	1605	Energy Efficiency Programs at Entergy Gulf States, Inc.	U.S.
		Entergy Integrated Solutions, Inc. (Entergy SASI Lighting)	U.S.
		Tennessee Gas Compressor Replacement	U.S.
Exelon Corporation	1605	Energy Cooperative & Demand Side Management Activities	U.S.
FirstEnergy Corporation	1605	Audit/Infiltration Single and Multi-Family	U.S.
		Compressed Air Solution	U.S.
		Efficient Lighting (Industrial and Commercial)	U.S.
		Efficient Lighting (Residential)	U.S.
		Efficient Motors	U.S.
		Energy Efficient Geothermal System	U.S.
		Energy Star	U.S.
		Food Service Conservation	U.S.
		Good Cents New Home Program	U.S.
		GPU Service Lighting & Building Energy Efficiency Project	U.S.
		Heat Pump Maintenance Check	U.S.
		High Efficiency Heat Pump Rebates	U.S.
		Hot Water Conservation	U.S.
		Information Services - Green Computers	U.S.
		JCP&L DSM, Efficiency & Electrotechnology Program	U.S.
		Met-Ed Lighting & Building Energy Consumption Reduction Prog	U.S.
		Met-Ed/Penelec DSM, Efficiency & Electrotechnology Program	U.S.
		Refrigerator Recycling Program	U.S.
		Thermal Energy Storage - Cooling	U.S.
		Water Heater Efficiency Improvements	U.S.
		Water Heating - Conservation	U.S.
Ford Motor Company	1605	1998 - 2002 Performance Projects	U.S.
		1998 - 2002 Plant Energy Efficiency Programs	U.S.
		Process Upgrades	U.S.
General Motors Corporation	1605	1991-2002 GM Annual Energy Competition & Projects	U.S.
		1991-2002 Powerhouse Conversions	U.S.
		1993 - 1997 Mich. Demand Side Mgt and Energy Partner Program	U.S.
Golden Valley Electric Association, Inc	1605EZ	Energy Sense DSM Program	U.S.
Green Mountain Energy Company	1605	GMEC energy purchases for corporate offices	U.S.
Hawaiian Electric Company, Inc.	1605	Commercial & Industrial Custom Rebate Program	U.S.
		Commercial & Industrial Energy Efficiency Program	U.S.
		Commercial & Industrial New Construction Program	U.S.
		Residential Eff. Water Heating Program (Existing Customers)	U.S.
		Residential Efficient Water Heating (New Construction)	U.S.
		Showerhead Distribution	U.S.
J. Bradford Hollomon	1605EZ	Air Conditioner Replacement	U.S.
Johnson & Johnson	1605	Building Shell	U.S.
		Equipment & Appliances	U.S.
		Fuel Switching	U.S.
		HVAC	U.S.
		Installation of Energy Efficient Systems	U.S.
		Installation of Timer Controls and Shutdowns	U.S.
		Lighting & Lighting Controls	U.S.
		Load Control	U.S.
		Motor & Motor Drives	U.S.
		Process Improvements	U.S.
Kansas City Power & Light Company	1605	DSM - AC upgrade	U.S.
		EPA's Green Lights	U.S.
		Street Light Upgrade	U.S.
Lehigh Cement Co. (fmrly Lehigh Portland Cement Co	1605	Project 1: Plant Shutdown	U.S.
		Project 2: Waste Tire Burning	U.S.
		Project 3: Waste Tire Burning	U.S.
		Project 4: Plant Modernization	U.S.
		Project 5: Lighting retrofit	U.S.
		Project 6: Motor retrofit	U.S.
		Project 7. Waste Oil Burning	U.S.
		Project 8. Waste Tire Burning	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Lehigh Cement Co. (formerly Calaveras Cement Co.)	1605	Project 1. Plant Modernization	U.S.
		Project 2. Waste Tire & Rice Hull Burning	U.S.
Los Angeles Department of Water and Power	1605	Chiller Replacement / Efficiency Program	U.S.
		Commercial Lighting Program	U.S.
		Consumer Rebate Program	U.S.
		Cool Roofs Program	U.S.
		Cool Schools Urban Forestry - Energy Efficiency Effects	U.S.
		Energy Star Office Equipment	U.S.
		High Efficiency Clothes Washers	U.S.
		HVAC Replacement Program	U.S.
		HVAC Tune-up	U.S.
		JFB Lighting Retrofit	U.S.
		NBRS ("Neighborhood Bill Reduction Service") Program	U.S.
		Reflective Window Film Rebate Program	U.S.
		Refrigeration Tune-Up Program	U.S.
		Refrigerator Replacement Program	U.S.
		Trees For a Green LA Urban Forestry - Energy Efficiency	U.S.
		Water Conservation Program	U.S.
Lower Colorado River Authority	1605	Residential & Commercial DSM Program	U.S.
Lucent Technologies Inc.	1605	LRE #1	U.S.
		ME - #1	U.S.
		ME - #2	U.S.
		ME - #3	U.S.
		ME - #4	U.S.
		ME - #5	U.S.
		ME - #6	U.S.
		ME - #7	U.S.
		ME - #8	U.S.
		OFS - #1	U.S.
		OFS - #2	U.S.
		OFS - #3	U.S.
		OFS - #4	U.S.
		OFS - Addition of VDFs	U.S.
		OFS - Eliminate fan	U.S.
		OFS - Light Switch	U.S.
		OFS - Light Timer	U.S.
		ONG - #1	U.S.
		ONG - #2	U.S.
		WNG - #1	U.S.
		WNG - #2	U.S.
		WNG - #3	U.S.
Mead Johnson Nutls/Bristol-Meyers Squibb	1605	Coal-Fired Boilers Replaced with Natl Gas/Oil Fired Boilers	U.S.
		Compressed Air System Renovated & Leak Survey/Repair	U.S.
Minnesota Power	1605	Demand Side Mgmt., Conservation and Efficiency Improvements	U.S.
		Expanded Use of Renewable Biomass (wood waste)	U.S.
National Grid USA	1605	Demand-Side Management (DSM) Programs - New England	U.S.
		Energy Efficiency and Conservation Programs (DSM) - NY	U.S.
Nebraska Public Power District	1605EZ	Electric Heat Pump Program, 1998-2002	U.S.
Northern Neck Electric Cooperative	1605	Demand-Side Management Programs	U.S.
Northern Virginia Electric Cooperative	1605	Demand-side Management Load Control Programs	U.S.
Old Dominion Electric Cooperative	1605	Green Lights	U.S.
Omaha Public Power District	1605EZ	Commercial & Industrial Audits	U.S.
		Heat Pump Program (RECP)	U.S.
		Right Lights	U.S.
		Street Lighting Replacement	U.S.
PacifiCorp	1605	CFL Bulbs	U.S.
		Commercial Competitive Bid - EUA/Onsite	U.S.
		Competitive Bid - CES/Way	U.S.
		Energy FinAnswer	U.S.
		Energy FinAnswer Prescriptive	U.S.
		Energy FinAnswer Retrofit	U.S.
		H_PRO: High Efficiency Heat Pumps	U.S.
		Hassle-Free Program	U.S.
		Home Comfort	U.S.
		Industrial Energy FinAnswer	U.S.
		Irrigation FinAnswer Program	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
		Low Income Weatherization and Conservation Programs	U.S.
		Major Accounts Program	U.S.
		Manufactured Housing Acquisition Program (MAP)	U.S.
		Northwest Energy Efficiency Alliance (NEEA)	U.S.
		PacifiCorp Facility DSM	U.S.
		Residential Competitive Bid - ECONS	U.S.
		Residential Weatherization Programs	U.S.
		Salt Lake City Urban Forestry Project	U.S.
		Showerhead Program	U.S.
		Small Commercial Retrofit	U.S.
		Super Efficiency Refrigerator Program (SERP)	U.S.
		Super Good Cents	U.S.
		Utah Water Smart Kits (Schedule 5)	U.S.
		Water Heater / Solar	U.S.
PG&E Corporation	1605	Electrical Energy Conservation Savings	U.S.
		Natural Gas Energy Conservation Savings	U.S.
Pharmacia & Upjohn Caribe Inc.	1605EZ	Capital Project Review	U.S.
		Electrical System Upgrade	U.S.
		Plantwide Steam Strap Survey	U.S.
		Replacement of Condensate Station at Building M50	U.S.
		Reuse of HVAC Condensate and Rainwater from Dikes	U.S.
Platte River Power Authority & 4 Owner Cities	1605	Estes Park Streetlight Conversions	U.S.
		Fort Collins Building Codes	U.S.
		Fort Collins City Lighting Upgrades	U.S.
		Fort Collins Design Assistance	U.S.
		Fort Collins LED Traffic Lights	U.S.
		Fort Collins Zero Interest Loan for Conservation Help	U.S.
		Longmont Efficient Lighting Projects	U.S.
		Longmont LED Traffic Lights	U.S.
		Loveland Area Lighting Project	U.S.
		Loveland Thrifty Light Project	U.S.
		Platte River Cooling Rebate Program	U.S.
Portland General Electric Co.	1605	Demand-Side Management Projects	U.S.
		Energy Management Systems	U.S.
		Gas Lawnmower Turn In Rebate	U.S.
		Green Lights Programs	U.S.
		Heat Pump Rebate	U.S.
		Photoelectric Streetlight Controls	U.S.
Public Service Enterprise Group	1605	Demand Side Management	U.S.
Public Utility District No. 1 of Snohomish County	1605	Demand Side Management	U.S.
Rappahannock Electric Cooperative	1605	Demand-Side Management Load Control Programs	U.S.
Rolls-Royce Corporation	1605	Boiler Conversion from Coal to Landfill/Natural Gas	U.S.
	1605	Peak Saving Project	U.S.
Sacramento Municipal Utility District	1605	Energy Efficiency Programs	U.S.
Salt River Project	1605EZ	AC Photovoltaic Residential System	U.S.
		Calex Homes PV Systems	U.S.
		Cesar Chavez HS Photovoltaic System	U.S.
		Home with PV System for Demonstration (Chandler House)	U.S.
		Replace Gasoline Lawnmowers with Electric Lawnmowers	U.S.
		Scottsdale CC PV System	U.S.
		South Mountain CC Solar	U.S.
		SunDish solar dish/Stirling system (operation on sun)	U.S.
Santee Cooper	1605	Demand Side Management Programs	U.S.
Seattle City Light	1605	Built Smart/Long-Term Super Good Cents Program	U.S.
		Energy $avings Plan	U.S.
		Energy Efficient Water Heater Rebate Program	U.S.
		Energy Smart Design	U.S.
		Energy Smart Services	U.S.
		Home Water Savers Program	U.S.
		Low-Income Electric Program	U.S.
		Multifamily Common Area Lighting Program	U.S.
		Multifamily Conservation Program: Low-Income	U.S.
		Multifamily Conservation Program: Standard-Income	U.S.
		Neighborhood Power Lighting,Weatherization,Warm Home Program	U.S.
		Retail-Wise Lighting and Appliances	U.S.
		Smart Business Rebates	U.S.
Seminole Electric Cooperative, Inc.	1605EZ	Lighting Replacement	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Shenandoah Valley Electric Cooperative	1605	Demand-Side Management Load Control Programs	U.S.
Shih Family	1605EZ	Replace 120 W light bulb with 26 W compact fluorescent bulb	U.S.
		Replace 60 W bulbs with 11 W CFL bulbs	U.S.
		Replace 75 Watt Bulbs with 13 W CFL bulbs	U.S.
Shrewsbury Electric Light Plant	1605EZ	Lighting Replacement	U.S.
Sikorsky Aircraft Corporation	1605	Air Conditioning efficiency improvements	U.S.
		Composite trim Dust Collector Improvement.	U.S.
		Compressed Air Energy Efficiency Improvements	U.S.
		Lighting Efficiency Improvements	U.S.
		Process improvement - Vacuum Pump Consolidation	U.S.
South Carolina Electric & Gas Company	1605	Demand Side Management Technologies	U.S.
Southern California Edison Co.	1605	Demand Side Management	U.S.
		ENVEST SCE	U.S.
		Internal Combustion Engine Replacement Program	U.S.
Southern Company[(p)]	1605	Demand-Side Management	U.S.
Steuben Rural Electric Co-op	1605EZ	1994 Water Heater Control Program	U.S.
		1995 Water Heater Control Program	U.S.
		1996 Farm Energy Efficiency	U.S.
		1996 Water Heater Control Program	U.S.
		1997 Farm Energy Efficiency	U.S.
		1997 Water Heater Control Program	U.S.
Tacoma Power	1605EZ	Energy Conservation	U.S.
Tennessee Valley Authority	1605	Comfort Plus Homes	U.S.
		Outdoor Lighting Replacements By Memphis Light, Gas And Wate	U.S.
		Residential Marketing Program	U.S.
Texas Genco, LP	1605	Demand Side Management	U.S.
The Estee Lauder Companies	1605	1381 Research Park Lighting Control Sensors	U.S.
		1392 Octron Lighting JHL	U.S.
		1522 Melville Occupancy Sensors Offices	U.S.
		1569 Melville Motor Upgrades	U.S.
		187 Melville Manufacturing Octron Lighting	U.S.
		209 Oakland Octron Lighting Upgrade	U.S.
		229 Trevose Octron Lighting Project	U.S.
		284 Melville Energy Conservation	U.S.
		3643 Oakland Warehouse Sensor Installation	U.S.
		Melville DC - Octron Lighting Project	U.S.
		Melville Steam Trap System Survey and Remediation	U.S.
		Research Park Octron Lighting Project	U.S.
		Whitman 4 Octron Lighting Project	U.S.
Tucson Electric Power Company	1605	Commercial DSM Programs	U.S.
		Residential DSM Programs	U.S.
TXU	1605	Demand-Side Management Program	U.S.
Utah Municipal Power Agency	1605EZ	In House Conservation	U.S.
		Light Replacement Program	U.S.
		Residential Audits	U.S.
Vermont Public Power Supply Authority	1605	Act 250 New Construction Program	U.S.
		Equipment Replacement and Remodeling Program	U.S.
		Farm Efficiency Program	U.S.
		Large Commercial and Industrial Audit Program	U.S.
		Residential Appliance Disposal Program	U.S.
		Residential Low Income Weatherization Piggyback Program	U.S.
		Residential Mail Order Lighting Program	U.S.
		Residential Top Ten	U.S.
		Residential Water Heating and Lighting Efficiency Program	U.S.
		Small Commercial Retrofit Program	U.S.
		Street and Area Lighting Efficiency Program	U.S.
Waverly Light & Power Company	1605	Energy End-Use Programs (Project 3.1)	U.S.
		Energy Savings Due to Trees Forever (Project 3.3)	U.S.
		High-Pressure Sodium Lights (Project 3.2)	U.S.
We Energies	1605	Demand-side management energy efficiency programs	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Wisconsin Public Power Inc.	1605EZ	98-2001 Energy Education	U.S.
		Air Conditioner Rebate	U.S.
		Appliance Rebate Program	U.S.
		Appliance Turn In	U.S.
		Appliance Turn-In Reward (All Appliances)	U.S.
		Central AC Tune Up	U.S.
		Central AC Tune-Up Discount	U.S.
		Commercial Industrial Farm Program	U.S.
		Conservation Kits - CFLs	U.S.
		Conservation Kits - Faucet Aerators	U.S.
		Conservation Kits - Low-Flow Showerheads	U.S.
		Efficiency Improvement	U.S.
		Efficiency Improvement Incentive Program	U.S.
		Energy Conservation Incentive - Energy Star Windows	U.S.
		Energy Education - 2002	U.S.
		Energy Star Appliances Dishwashers	U.S.
		Energy Star Appliances Front Load Clothes Washer	U.S.
		Energy Star Appliances Refrigerators	U.S.
		Energy Star Bulb Give Away	U.S.
		Energy Star Bulb Giveaway (15,20, & 23 W)	U.S.
		Energy Star Lighting - CF FIXTURES	U.S.
		Energy Star Lighting - CF LAMP TORCHIERES	U.S.
		Energy Star Lighting - CFL	U.S.
		Energy Star Partners	U.S.
		Energy Star Partners - CFLs	U.S.
		Energy Star Partners - Clothes Washers	U.S.
		Energy Star Partners - Dehumidifiers	U.S.
		Energy Star Partners - Dishwashers	U.S.
		Energy Star Partners - Fixtures	U.S.
		Energy Star Partners - Refrigerators	U.S.
		Energy Star Partners - Room Air Conditioner Turn-In	U.S.
		Energy Star Partners - Room Air Conditioners	U.S.
		Energy Star Partners - Torchieres	U.S.
		Home Energy Check ups	U.S.
		Home Energy Check-Up - CFLs	U.S.
		Home Energy Check-Up - Faucet Aerators	U.S.
		Home Energy Check-Up - Low-Flow Showerheads	U.S.
		Home Energy Check-Up - Pipe Insulation	U.S.
		Home Energy Check-Up - Water Heater Wrap	U.S.
		Home Performance with ENERGY STAR	U.S.
		Home Remodeling Grant - Energy Star Windows	U.S.
		Home Remodeling Grant - Wall Insulation	U.S.
		Home Weatherization Program	U.S.
		LED Exit Sign Replacement	U.S.
		LED Traffic Signal Replacement	U.S.
		Refrigerator Replacement Program	U.S.
		Residential Appliance Program	U.S.
		Residential Efficiency Incentive - Energy Star Windows	U.S.
		Street Lighting	U.S.
		Wisconsin Energy Star Homes	U.S.
Xcel Energy	1605	Demand Side Management - Xcel Energy (SPS)	U.S.
		Demand side management (electric)--NSP	U.S.
		Demand Side Management (electric)--PSCo	U.S.
		Green Lights	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Transportation and Off-Road Vehicles			U.S.
Allegheny Energy, Inc.	1605	Carryall Vehicle Program	U.S.
Ameren Corporation (formerly UE and CIPS)	1605	Carpooling	U.S.
		Purchase of Light Weight Rail Cars	U.S.
Arizona Electric Power Cooperative, Inc.	1605EZ	Carpool	U.S.
AT&T	1605	Fleet Cost Reduction Program	U.S.
		Telecommuting	U.S.
Cinergy Corp.	1605	Fleet Alternative Fuels	U.S.
City Utilities of Springfield	1605	Natural Gas Fleet	U.S.
CLE Resources	1605	Cycloid	U.S.
		McHugh Software	Foreign
		McHugh Software - Foreign	U.S.
Conectiv Atlantic Generation (CAG)	1605	Employee Telecommuting	U.S.
		Employee Van Pooling	U.S.
Conectiv Delmarva Generation	1605	CNG Vehicles	U.S.
		Mass Transit to DC	U.S.
		Soy Vehicles	U.S.
Consolidated Edison Company of New York, Inc.	1605	Alternative Fuel Vehicles - CNG	U.S.
Constellation Energy Group, Inc	1605	Alternatively Fueled Vehicles	U.S.
		Employee Commute Options	U.S.
DTE Energy/ Detroit Edison	1605	Electric Vehicle Demonstration Project	U.S.
Entergy Services, Inc.	1605	Natural Gas Vehicle Program	U.S.
Exelon Corporation	1605	Alternative Fuel Vehicles - ComEd Fleet	U.S.
		Operation of CNG Vehicles - PECO Fleet	U.S.
FirstEnergy Corporation	1605	Electric Vehicles and Employee Trip Reduction Program	U.S.
		Video-Conferencing	U.S.
JEA	1605EZ	Biodiesel	U.S.
Kansas City Power & Light Company	1605	Aluminum Coal Cars	U.S.
Los Angeles Department of Water and Power	1605	Electric Vehicles	U.S.
		LADWP Rideshare Program	U.S.
National Grid USA	1605	Alternative Fuel Vehicles	U.S.
		Carpool	U.S.
		Electric Vehicles	U.S.
NiSource/NIPSCO	1605	Electric Vehicles	U.S.
		Employee Commute Options	U.S.
		Natural Gas Vehicles	U.S.
PG&E Corporation	1605	Electric Vehicles	U.S.
		Natural Gas Vehicles	U.S.
Platte River Power Authority & 4 Owner Cities	1605	Fort Collins Transportation Demand Management	U.S.
Portland General Electric Co.	1605	Electric Fleet Vehicles	U.S.
		Hunt Turtle Technology	U.S.
		Natural Gas Fleet Vehicles	U.S.
Public Service Company of New Mexico	1605	CNG Vehicles	U.S.
Public Service Enterprise Group	1605	Employee Trip Reduction	U.S.
Public Utility District No. 1 of Snohomish County	1605	Battery and Solar Powered Boat Races	U.S.
		Bicycles for Meter Readers	U.S.
		Commute Reduction Program	U.S.
		Electric Car Race	U.S.
Sacramento Municipal Utility District	1605	Employee Commute Program	U.S.
		Meter Reading - Bicycles	U.S.
		Ride Electric	U.S.
Salt River Project	1605EZ	Alternate Work Week Schedule	U.S.
		Bike/Bus/Walk	U.S.
		Carpooling/Vapooling	U.S.
		Electric Vehicles Demonstration and Business Use	U.S.
		Telecommuting	U.S.
Shih Family	1605EZ	Purchased Honda Civic Hybrid	U.S.
Southern California Edison Co.	1605	Electric Vehicle Program	U.S.
Southern Company[p]	1605	Carpooling and Mass Transit	U.S.
		Transportation Research	U.S.
Tacoma Power	1605EZ	Alternative Transportation	U.S.
Tennessee Valley Authority	1605	Alternate Fuel Vehicles	U.S.
		Transportation Fleet Fuel Efficiency Improvement	U.S.
Tucson Electric Power Company	1605	Travel Reduction Program	U.S.
TXU	1605	Alternative Fuel Vehicle Program	U.S.
		Employee Bus Pass Program	U.S.
		Employee Carpool Program	U.S.
		Vehicle Use Reductions	U.S.
Waverly Light & Power Company	1605	Electric Vehicle (Project 4.1)	U.S.
We Energies	1605	Vehicle conversion to dual fuel capability	

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Waste Treatment and Disposal--Methane			U.S.
Ameren Corporation (formerly UE and CIPS)	1605	Milam Landfill Methane Recovery	U.S.
Asheville Landfill Gas, LLC	1605	Buncombe County Landfill	U.S.
Burlington County Board of Chosen Freeholders[p]	1605	Landfill Gas Flaring	U.S.
Catawba Landfill Gas, LLC	1605	Blackburn Landfill	U.S.
Cinergy Corp.	1605	Danville, IN Electric Generation	U.S.
		Rumpke Landfill Gas Recovery	U.S.
City of Austin Electric Utility (Austin Energy)	1605EZ	Landfill Gas Generation	U.S.
Conectiv Delmarva Generation	1605	Edge Moor Landfill Gas Use	U.S.
County Sanitation Districts of Los Angeles County	1605	Recovery of Methane at Landfills	U.S.
		Recovery of Methane from Wastewater Treatment	U.S.
DeBourgh Manufacturing Company	1605EZ	Powder Reclaimers	U.S.
Delaware Solid Waste Authority	1605	Central Solid Waste Management Center (CSWMC)	U.S.
		Cherry Island Landfill (CIL)	U.S.
		Pigeon Point Landfill (PPLF)	U.S.
		Southern Solid Waste Management Center (SSWMC)	U.S.
DTE Energy/ Detroit Edison	1605	Landfill Energy Purchases, non-DTE Projects	U.S.
		Landfill Gas Recovery Projects	U.S.
		LFG Recovery & Energy Gen - DTE Proj outside Service Area	U.S.
		LFG Recovery & Energy Gen - DTE Projects in Service Area	U.S.
Duke Energy Corporation	1605	White Street Landfill Gas Recovery Project	U.S.
Exelon Corporation	1605	Fairless Hills LFG to Energy Operation	U.S.
		Landfill Gas Power Purchases	U.S.
		Pennsbury LFG to Energy Operation	U.S.
FirstEnergy Corporation	1605	Corry	U.S.
		Hamm's Landfill NUG	U.S.
		Lake View Landfill	U.S.
		Manchester Renewable	U.S.
		Modern Landfill NUG	U.S.
		Monmouth County Reclamation Center NUG	U.S.
FPL Group	1605	Aroostook Valley Electric Company	U.S.
		Montenay Power Plant	U.S.
		Multitrade Power Plant	U.S.
Gas Recovery Systems	1605	Arbor Hills Electric	U.S.
		C&C Electric	U.S.
		Charlotte Motor Speedway	U.S.
		Chicopee Electric	U.S.
		East Bridgewater	U.S.
		Fall River	U.S.
		GRS American Canyon Landfill	U.S.
		GRS Coyote Canyon	U.S.
		Guadalupe	U.S.
		Halifax	U.S.
		Kapaa	U.S.
		LGP Orange County, New York	U.S.
		Lyon Electric	U.S.
		Mallard Lake	U.S.
		Menlo Park	U.S.
		Newby Island Landfill	U.S.
		Pine Bend	U.S.
		Quad Cities Electric	U.S.
		Randolph	U.S.
		Richmond Electric	U.S.
		Rockford Electric	U.S.
		Sacramento	U.S.
		San Marcos	U.S.
		Santa Cruz	U.S.
		South Barrington	U.S.
		Sunset Farms	U.S.
		Sycamore	U.S.
		Vienna Junction	U.S.
Granger Electric Company	1605	Brent Run Landfill Generating Station	U.S.
		Grand Blanc Landfill Generating Station	U.S.
		Granger #1 Generating Station - Wood Road Landfill	U.S.
		Granger #2 Generating Station - Grand River Avenue Landfill	U.S.
		Granger MotorWheel Facility	U.S.
		Ottawa County Farms Landfill Generating Station	U.S.
		Seymour Road Landfill Generating Station	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Granger Energy, LLC	1605	Indianapolis/South Side Landfill Gas Project	U.S.
		Lake County Landfill Gas Project	U.S.
Greater New Bedford Regional Refuse Mgt District	1605	Crapo Hill Landfill Gas Control Project	U.S.
Integrated Waste Services Association	1605	Waste-to-Energy - Waste Diversion	U.S.
Iredell Landfill Gas, LLC	1605	Iredell County Landfil	U.S.
Klickitat County Public Utility District No. 1	1605	H.W. Hill Landfill Gas Power Plant	U.S.
Landfill Energy Systems	1605	Adrian	U.S.
		Ann Arbor	U.S.
		Carleton Farms	U.S.
		I-95 Phase I	U.S.
		I-95 Phase II	U.S.
		MRPC	U.S.
		MRPC Flare	U.S.
		Pine Tree	U.S.
		Riverview	U.S.
		Salem	U.S.
		Salem Flare	U.S.
		Sumpter	U.S.
		Sunshine Canyon	U.S.
		Wichita	U.S.
LFG Energy, Inc.	1605	LFG Energy - Phases I & II	U.S.
		LFG Energy Upgrade Facility	U.S.
Los Angeles Department of Water and Power	1605	Scattergood - Digester Gas Displacement of Natural Gas	U.S.
Lucent Technologies Inc.	1605	WNG - #4	U.S.
Lynchburg Gas Producers, LLC	1605	Lynchburg Landfill	U.S.
Madison County Depart. of Solid Waste & Sanitation	1605	Landfill Gas Recovery & Flaring	U.S.
Michigan CAT	1605	Lower Potomac	U.S.
		Sacramento	U.S.
Middlesex Generating Company, LLC	1605	MCUA Landfill Gas Utilization Project - Edison Landfill	U.S.
		MCUA Landfill Gas Utilization Project - ILR Landfill	U.S.
		MCUA Landfill Gas Utilization Project - MCUA Landfill	U.S.
Minnesota Resource Recovery Association (MRRA)	1605EZ	MSW Incineration	U.S.
Model City Energy, LLC	1605	Model City Energy Facility	U.S.
Montauk Energy Capital	1605	Attleboro (MASS Energy, LLC)	U.S.
		Bowerman Landfill Gas Recovery Plant	U.S.
		Chautauqua (COP, LLC)	U.S.
		Colebrookdale (COP, LLC)	U.S.
		Dade County (Monteco)	U.S.
		Davis Street Landfill Gas Recovery Plant	U.S.
		Edison (COP, LLC)	U.S.
		El Dorado (COP, LLC)	U.S.
		Fresh Kills Landfill Gas Recovery Plant	U.S.
		Glacier Ridge (Glacier Ridge LFG, LLC)	U.S.
		ILR (COP, LLC)	U.S.
		Kearny Landfill Gas Recovery Plant	U.S.
		McCarty Road Landfill Gas Recovery Plant	U.S.
		McCommas Bluff (Monteco)	U.S.
		MCUA (COP, LLC)	U.S.
		Monmouth Landfill Gas Recovery Plant	U.S.
		Mountaingate Landfill Gas Recovery Plant	U.S.
		Nelson Gardens (Monteco)	U.S.
		North Country (CRMC Bethlehem, LLC)	U.S.
		Oaks (COP, LLC)	U.S.
		Olinda Landfill Gas Recovery Plant	U.S.
		Pigeon Point LFG, Inc (COP, LLC)	U.S.
		Roosevelt (Roosevelt Landfill Gas Recovery, LLC)	U.S.
		Rosenberg (Monteco)	U.S.
		Rumpke Landfill Gas Recovery Plant	U.S.
		Virginia Beach (VB LFG, LLC)	U.S.
		Zion (Zion LFG, LLC)	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
National By-Products Inc	1605	Landfill gas-boiler fuel	U.S.
Natural Power, Inc.	1605	Wilder's Grove Landfill Gas Project	U.S.
NC Muni Landfill Gas Partners, LLC	1605	Henderson County Landfill	U.S.
NEO Corporation	1605	Acme Landfill Gas Utilization Project	U.S.
		Albany Landfill Gas Utilization Project	U.S.
		Balefill Landfill Gas Utilization Project	U.S.
		Bordeaux Landfill Gas Utilization Project	U.S.
		Corona Landfill Gas Utilization Project	U.S.
		Cuyahoga Landfill Gas Utilization Project	U.S.
		Denver Landfill Gas Utilization Project	U.S.
		Edgeboro Landfill Gas Utilization Project	U.S.
		Fitchburg Landfill Gas Utilization Project	U.S.
		Flying Cloud Landfill Gas Utilization Project	U.S.
		Fort Smith Landfill Gas Utilization Project	U.S.
		Four Hills Landfill Gas Utilization Project	U.S.
		Hartford Landfill Gas Utilization Project	U.S.
		Kingsland Landfill Gas Utilization Project	U.S.
		Kraemer Landfill Gas Utilization Project	U.S.
		Lopez Landfill Gas Utilization Project	U.S.
		Lowell Landfill Gas Utilization Project	U.S.
		Mazzaro Landfill Gas Utilization Project	U.S.
		Phoenix Landfill Gas Utilization Project	U.S.
		Prima Deshecha Landfill Gas Utilization Project	U.S.
		Prince William Landfill Gas Utilization Project	U.S.
		Riverside Landfill Gas Utilization Project	U.S.
		San Bernadino Landfill Gas Utilization Project	U.S.
		San Diego Landfill Gas Utilization Project	U.S.
		SKB Landfill Gas Utilization Project	U.S.
		Spokane Landfill Gas Utilization Project	U.S.
		Tacoma Landfill Gas Utilization Project	U.S.
		Tajiguas Landfill Gas Utilization Project	U.S.
		Taunton Landfill Gas Utilization Project	U.S.
		Visalia Landfill Gas Utilization Project	U.S.
		Volusia Landfill Gas Utilization Project	U.S.
		West Covina Landfill Gas Utilization Project	U.S.
		Woodville Landfill Gas Utilization Project	U.S.
		Yolo Landfill Gas Utilization Project	U.S.
New Jersey Meadowlands Commission	1605	Kingsland Landfill	U.S.
		MSLA 1-D Landfill	U.S.
		NJMC 1-A Landfill	U.S.
		NJMC 1-C Landfill	U.S.
		NJMC Balefill	U.S.
Newton Landfill Gas, LLC	1605	Newton Landfill	U.S.
NiSource/NIPSCO	1605	Landfill Methane Recovery - Deercroft	U.S.
		Landfill Methane Recovery - Wheeler	U.S.
		Landfill Methane Recovery-Prairie View	Foreign
North American Carbon, Inc.	1605	KMS Peel Energy Recovery Project	U.S.
Ocean County Landfill Corporation	1605	Flare Control of Landfill Gas	U.S.
		Supplying Landfill Gas for Energy Recovery	U.S.
Palmer Capital Corporation	1605	Brookhaven Landfill Gas Limited Partnership	U.S.
		Central Gas Limited Partnership	U.S.
		Janes LFG Corporation	U.S.
		Lancaster Landfill Gas Corporation	U.S.
		Lebanon Landfill Gas Corporation	U.S.
		LKD Los Angeles L.P.	U.S.
		Portland LFG Joint Venture	U.S.
		Raleigh Landfill Gas Corporation	U.S.
		Scholl Canyon LFG Limited Partnership	U.S.
		Sun LFG Corporation	U.S.
PG&E Corporation	1605	Barre Landfill Gas to Electricity Project	U.S.
		Johnston Landfill Gas to Electricity Project	U.S.
		Millennium Power Partners	U.S.
		Nashua Landfill Gas To Electricity Project	U.S.
		Turnkey Landfill Gas to Electricity Project	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Pitt Landfill Gas, LLC	1605	Pitt County Landfill	U.S.
Platte River Power Authority & 4 Owner Cities	1605	Fort Collins Wastewater Methane Flare	U.S.
		Longmont Wastewater Plant Waste Gas Flare	U.S.
		Loveland Digester Gas Production and Use	U.S.
Public Service Enterprise Group	1605	Municipal Solid Waste Generators	U.S.
Rolls-Royce Corporation	1605	Use of Landfill Gas	U.S.
Salt River Project	1605EZ	Landfill Gas Flaring (CH4 Avoided)	U.S.
		Landfill Gas Flaring (CO2 Increase)	U.S.
		Landfill Gas Generation (solar dish/stirling system)	U.S.
		Tri-Cities Landfill Gas Generation Facility	U.S.
Santee Cooper	1605	Santee Cooper - Horry County Landfill Site	U.S.
Seneca Energy II, LLC	1605	Seneca Energy - Stage I	U.S.
		Seneca Energy - Stage II	U.S.
Tennessee Valley Authority	1605	Landfill Methane Recovery and Power Generation	U.S.
TXU	1605	Landfill Methane	U.S.
US Energy Biogas Corp.	1605EZ	122nd Street	U.S.
		122nd Street Flare	U.S.
		Amity	U.S.
		Barre	U.S.
		Barre Flare	U.S.
		Brickyard	U.S.
		Brickyard Flare	U.S.
		Brookhaven	U.S.
		Brown East	U.S.
		Brown West	U.S.
		Burlington	U.S.
		Cape May Flare	U.S.
		Cape May School	U.S.
		Countryside	U.S.
		Countryside Flare	U.S.
		Dixon	U.S.
		Dolton	U.S.
		Dolton Flare	U.S.
		Garland Flare	U.S.
		Hamm/Sussex	U.S.
		Harrison Flare	U.S.
		Manchester	U.S.
		Manchester Flare	U.S.
		Marina	U.S.
		Morris	U.S.
		Morris Flare	U.S.
		Oceanside	U.S.
		Onondaga	U.S.
		Romeoville	U.S.
		Romeoville Flare	U.S.
		Roxanna	U.S.
		Smithtown	U.S.
		Smithtown Flare	U.S.
		SPSA	U.S.
		SPSA Flare	U.S.
		SPSA/CIBA	U.S.
		Streator	U.S.
		Streator Flare	U.S.
		Tucson	U.S.
		Tucson Flare	U.S.
		Upper Rock	U.S.
		Upper Rock Flare	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Waste Management Inc.	1605	Akron (Hardy Road) MSW Landfill - 1367	U.S.
		Akron (Hazel Street) MSW Landfill	U.S.
		Alliance MSW Landfill - 154	U.S.
		Altamont (Flare) MSW Landfill - 2554	U.S.
		Altamont (Power) MSW Landfill - 2554	U.S.
		Amelia MSW Landfill - 41	U.S.
		American MSW Landfill - 136	U.S.
		Arden MSW Landfill - 70	U.S.
		Atascocita MSW Landfill - 2158	U.S.
		Atlantic Waste Disposal MSW Landfill - 858	U.S.
		Austin Community MSW Landfill - 2162	U.S.
		Autumn Hills RDF	U.S.
		Baytown MSW Landfill - 1129	U.S.
		Bethel MSW Landfill - 1306	U.S.
		BJ (flare) MSW Landfill	U.S.
		BJ (Power) MSW Landfill	U.S.
		Bluebonnet MSW Landfill - 1074	U.S.
		Bolton Road/SSL MSW Landfill - 76	U.S.
		Boundary Road MSW Landfill	U.S.
		Bradley MSW Landfill - 2502	U.S.
		Brookfield Sanitary Landfill	U.S.
		Burnsville Sanitary MSW Landfill - 291	U.S.
		Butterfield MSW Landfill - 2384	U.S.
		Button Gwinnett MSW Landfill	U.S.
		Central Sanitary Landfill (Flare)	U.S.
		Central Sanitary Landfill (Power)	U.S.
		Cereal City MSW Landfill	U.S.
		Chaffee	U.S.
		Chain of Rocks MSW Landfill - 2450	U.S.
		Charles City - 42	U.S.
		Chastang MSW Landfill - 1143	U.S.
		Chestnut Ridge (Flare) MSW Landfill-2115	U.S.
		Chestnut Ridge (Power) MSW Landfill - 2115	U.S.
		Chicopee MSW Landfill - 444	U.S.
		CID Areas 1, 2 and 3 (Flare)	U.S.
		CID Areas 1, 2 and 3 (Power) MSW Landfill - 2030	U.S.
		Cinnaminson MSW Landfill	U.S.
		City Sand MSW Landfill	U.S.
		Coastal Plains MSW Landfill - 1073	U.S.
		Columbia Ridge MSW Landfill - 2588	U.S.
		Comal County Landfill	U.S.
		Conroe 6 MSW Landfill - 0127	U.S.
		Countryside MSW Landfill - 6	U.S.
		Covel Gardens MSW Landfill - 2177	U.S.
		Crossroads	U.S.
		Cuyahoga MSW Landfill - 216	U.S.
		Dads Landfill	U.S.
		Dauphin Meadows MSW Landfill - 63	U.S.
		Deer Track Park MSW Landfill - 1704	U.S.
		Deercroft (flare) MSW Landfill - 318	U.S.
		Deercroft (Power) MSW Landfill - 318	U.S.
		DeKalb County RDF MSW Landfill - 2269	U.S.
		Des Moines MSW Landfill - 2066	U.S.
		DFW (Flare) MSW Landfill	U.S.
		DFW (Power) MSW Landfill - 399	U.S.
		Douglas County MSW Landfill - 2809	U.S.
		DRPI Landfill - 1307	U.S.
		Eagle Valley RDF MSW Landfill - 2336	U.S.
		Earthmovers MSW Landfill - 17	U.S.
		East Oak MSW Landfill	U.S.
		East Side	U.S.
		El Sobrante MSW Landfill - 0166	U.S.
		ELDA RDF Landfill	U.S.
		Elizabethtown MSW Landfill	U.S.
		Elk River MSW Landfill - 1706	U.S.
		Envirofil of III MSW Landfill - 53	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name		Form Type	Project	Location
			Evergreen MSW Landfill	U.S.
			Evergreen MSW Landfill - 1314	U.S.
			Fitchburg MSW Landfill - 439	U.S.
			Five Oaks RDF MSW Landfill - 2271	U.S.
			Geneva	U.S.
			Granby (Holyoke) MSW Landfill - 445	U.S.
			Grand Central MSW Landfill - 204	U.S.
			Greene Valley (Flare) MSW Landfill	U.S.
			Greene Valley (Power) MSW Landfill	U.S.
			GROWS MSW Landfill - 2382	U.S.
			Guadalupe MSW Landfill - 1543	U.S.
			Gulf Coast Landfill (Flare)	U.S.
			Hastings MSW Landfill - 1749	U.S.
			High Acres (Flare)	U.S.
			High Acres (Power) MSW Landfill - 2277	U.S.
			Hillsboro MSW Landfill -1515	U.S.
			Hillside Landfill	U.S.
			HOD Landfill	U.S.
			Hunt Road MSW Landfill	U.S.
			Iris Glen MSW Landfill - 2570	U.S.
			Jay County MSW Landfill - 228	U.S.
			John Smith MSW Landfill - 0293	U.S.
			Kankakee (Flare)	U.S.
			Kankakee (Power) MSW Landfill - 2319	U.S.
			Kelly Run MSW Landfill - 841	U.S.
			Kennewick/Wenatchee MSW Landfill - 1048	U.S.
			King George County MSW Landfill - 1323	U.S.
			Kirby Canyon MSW Landfill - 1046	U.S.
			Lake (Flare) MSW Landfill	U.S.
			Lake (Power) MSW Landfill	U.S.
			Lake County MSW Landfill	U.S.
			Lake View (flare) MSW Landfill - 2387	U.S.
			Lake View (Power) MSW Landfill - 2387	U.S.
			Lancaster MSW Landfill - 2508	U.S.
			Land & Development (L&D) Company (Power)	U.S.
			Land and Development (L&D) Company (Flare)	U.S.
			Laraway	U.S.
			Laurel Highlands MSW Landfill - 65	U.S.
			Liberty MSW Landfill - 22	U.S.
			Live Oak MSW Landfill - 2138	U.S.
			Magnolia MSW Landfill - 151	U.S.
			Martone (Barre) MSW Landfill - 1760	U.S.
			Medley Landfill & Recycling Center (Flare)	U.S.
			Metro MSW Landfill-2742	U.S.
			MIddle Pennisula MSW Landfill - 2497	U.S.
			Milam MSW Landfill - 2056	U.S.
			Mill Seat Landfill	U.S.
			Mohawk Valley MSW Landfill - 2167	U.S.
			Monroe-Livingston (flare) MSW Landfill - 2403	U.S.
			Monroe-Livingston (Power) MSW Landfill - 2403	U.S.
			Monroeville MSW Landfill - 69	U.S.
			Mountain View MSW Landfill - 2086	U.S.
			Naples Sanitary Landfill	U.S.
			New Boston	U.S.
			New Milford (flare) MSW Landfill	U.S.
			New Milford (Power) MSW Landfill	U.S.
			Northwest MSW Landfill - 2636	U.S.
			Oak Ridge RDF MSW Landfill - 319	U.S.
			Oakridge MSW Landfill - 49	U.S.
			Okeechobee MSW Landfill - 46	U.S.
			Olympic View MSW Landfill - 0030	U.S.
			Omega Hills/Orchard Ridge MSW Landfill - 2286	U.S.
			Outer Loop MSW Landfill - 2482	U.S.
			Oyster Bay Regional Park Landfill	U.S.
			Palmetto MSW Landfill - 2106	U.S.
			Parklands MSW Landfill	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
		Pecan Grove MSW Landfill - 2135	U.S.
		Peoples MSW Landfill - 1736	U.S.
		Pheasant Run (flare) MSW Landfill - 2290	U.S.
		Pheasant Run (Power) MSW Landfill - 2290	U.S.
		Piedmont MSW Landfill - 2120	U.S.
		Pine Bluff MSW Landfill - 1308	U.S.
		Pine Grove MSW Landfill - 835	U.S.
		Pine Tree Acres MSW Landfill - 1733	U.S.
		Pinnacle Road MSW Landfill	U.S.
		Pottstown (flare) MSW Landfill - 2393	U.S.
		Pottstown (Power) MSW Landfill - 2393	U.S.
		Powell Road MSW Landfill	U.S.
		Prairie View (flare) MSW Landfill - 316	U.S.
		Prairie View (Power) MSW Landfill - 316	U.S.
		Quail Hollow MSW Landfill - 1305	U.S.
		Quarry MSW Landfill - 2185	U.S.
		R & B Landfill (Flare)	U.S.
		Redwood MSW Landfill - 1507	U.S.
		Richland MSW Landfill - 82	U.S.
		Ridgeview (Flare) MSW Landfill - 2289	U.S.
		Ridgeview (Power) MSW Landfill	U.S.
		Riverbend MSW Landfill - 1509	U.S.
		Rolling Hills MSW Landfill	U.S.
		Rolling Meadows RDF MSW Landfill - 2040	U.S.
		Rumble Landfill 1	U.S.
		Rumble Landfill 2	U.S.
		Sandy Hill	U.S.
		Security MSW Landfill - 1017	U.S.
		Serif Road MSW Landfill	U.S.
		Settler's Hill (Flare) Landfill - 2384	U.S.
		Settler's Hill (Power) MSW Landfill - 2041	U.S.
		Shade (RCC) MSW Landfill - 231	U.S.
		Simi Valley MSW Landfill - 2510	U.S.
		Skyline MSW Landfill - 1003	U.S.
		South Hills (Arnoni) MSW Landfill - 185	U.S.
		Southern Alleghenies MSW Landfill - 64	U.S.
		Springhill/Recycle MSW Landfill - 2248	U.S.
		Spruce Ridge MSW Landfill - 1702	U.S.
		Statewide MSW Landfill	U.S.
		Stone Ridge Landfill	U.S.
		Stony Hollow MSW Landfill - 2672	U.S.
		Suburban MSW Landfill - 2363	U.S.
		Superior MSW Landfill - 2117	U.S.
		Tazewell (Power) MSW Landfill - 2899	U.S.
		Tazewell MSW Landfill (flare) - 2899	U.S.
		Timberline	U.S.
		Tonitown MSW Landfill - 0087	U.S.
		Tri Cities MSW Landfill - 1045	U.S.
		Tri-City RDF	U.S.
		Tullytown MSW Landfill - 2382	U.S.
		Turnkey (flare) MSW Landfill - 2159	U.S.
		Turnkey (Power) MSW Landfill - 2159	U.S.
		Twin Bridges (flare) MSW Landfill - 317	U.S.
		Twin Bridges (Power) MSW Landfill - 317	U.S.
		Two Pine MSW Landfill - 2181	U.S.
		Valley MSW Landfill - 232	U.S.
		Valley Trail MSW Landfill - 2293	U.S.
		Valley View MSW Landfill	U.S.
		Venice Park (Flare) MSW Landfill	U.S.
		Venice Park (Power) MSW Landfill - 2616	U.S.
		West Camden MSW Landfill - 2087	U.S.
		Westside (Ft. Worth) MSW Landfill - 1004	U.S.
		Westside MSW Landfill - 2894	U.S.
		Wheatland Prairie RDF	U.S.
		Wheeler RDF MSW Landfill (Flare)	U.S.
		Wheeler RDF MSW Landfill (Power)	U.S.
		White Lake MSW Landfill	U.S.
		Woodland (flare) MSW Landfill - 2043	U.S.
		Woodland (Power) MSW Landfill - 2043	U.S.
		Woodland Meadows RDF MSW Landfill - 2337	U.S.
We Energies	1605	Beneficial use of landfill methane	U.S.
Xcel Energy	1605	Refuse-derived fuel-NSP	

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Agriculture--Methane and Nitrous Oxide			
AES Warrior Run, Inc.	1605	Indian Dairy Project	Foreign
FirstEnergy Corporation	1605	Mason Dixon Farms, Inc.	U.S.
Texas Genco, LP	1605	Rice Field Methane Reductions Study	U.S.
Oil and Natural Gas Systems and Coal Mining--Methane			
CDX Gas, LLC	1605	Arkoma Mine Coalbed Methane Recovery	U.S.
		Pinnacle Mine Coalbed Methane Recovery	U.S.
Cinergy Corp.	1605	Natural Gas Star Program	U.S.
CLE Resources	1605	Revolve Technologies - Dry Gas Seals	U.S.
CMV Joint Venture	1605	Oak Grove Coalbed Methane Recovery Project	U.S.
		White Oak Creek Coalbed Methane Recovery	U.S.
Consolidated Edison Company of New York, Inc.	1605	Natural Gas STAR Best Management Practices	U.S.
Constellation Energy Group, Inc	1605	Gas Systems O & M (Natural Gas Star Partnership)	U.S.
Drummond Company, Inc.	1605	C Panel Gob Wells	U.S.
Duke Energy Corporation	1605	Natural Gas Star - Emergency Shutdowm Practices	U.S.
		Natural Gas Star - Pipeline Pull Downs	U.S.
		Natural Gas Star - Sleeve Repairs	U.S.
		Natural Gas Star - Use of Hot Taps for New Connections	U.S.
El Paso Production Company	1605	White Oak Creek Coalbed Methane Recovery	U.S.
Entergy Services, Inc.	1605	Natural Gas Pipeline Leak Repairs	U.S.
GeoMet Inc.	1605	Oak Grove Coalbed Methane Recovery Project	U.S.
		White Oak Creek Coalbed Methane Recovery	U.S.
Greene Energy, LLC	1605EZ	Methane Recovery	U.S.
Jim Walter Resources, Inc.	1605	Gobwell Degasification Program	U.S.
		Horizontal Degasification Program	U.S.
		Nitrogen Rejection Plant Program (LQG)	U.S.
		Standard Degasification Well Program	U.S.
National Grid USA	1605	Identify & Rehabilitate Leaky Gas Distribution Pipe	U.S.
NiSource/NIPSCO	1605	NG Star - Columbia Gas of Kentucky	U.S.
		NG Star - Columbia Gas of Ohio	U.S.
		NG Star - Columbia Gas of Pennsylvania and Maryland	U.S.
		NG Star - Columbia Gas of Virginia	U.S.
		NG Star - Columbia Gas Transmission Company	U.S.
		NG Star - Columbia Gulf Transmission Company	U.S.
		NG Star - NIPSCO	U.S.
		NG Star Bay State Gas	U.S.
		North Trenton Pipeline Replacement	U.S.
Northwest Fuel Development, Inc.	1605	Utilization of Coal Mine Gas	U.S.
PacifiCorp	1605	Northwest Fuels Methane Recovery From Coal Mines	U.S.
Peabody Holding Company, Inc.	1605	Coal Bed Methane Utilization	U.S.
		Coal Mine Methane Utilization	U.S.
Pharmacia & Upjohn Caribe Inc.	1605EZ	Boiler #1 Thermal Efficiency Retrofit	U.S.
Public Service Company of New Mexico	1605	Natural Gas Leak Surveying and Replacement	U.S.
South Carolina Electric & Gas Company	1605	SCANA Participation in STAR program	U.S.
U. S. Steel Mining Company, LLC	1605	No. 50 Mine: Gas Recovery For Sale / Use	U.S.
		Oak Grove Mine: Gas Recovery For Sale / Use	U.S.
Carbon Sequestration			
AES Hawaii, Inc.	1605	Mbaracayu Conservation	Foreign
AES Shady Point LLC	1605	OXFAM America Amazon	Foreign
AES Thames	1605	CARE Agroforestry	Foreign
Allegheny Energy, Inc.	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Black Oak Property Tree Planting	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Alliant Energy	1605	Afforestation	U.S.
		Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Conservation tillage	U.S.
		Forest preservation	U.S.
		Habitat Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Urban Forestry IP&L	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Ameren Corporation (formerly UE and CIPS)	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Green Leaf Project	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
American Electric Power, Inc.	1605	AEP-AGCROP-2002	U.S.
		AEP-AGSPOIL-1992	U.S.
		AEP-AGSPOIL-1993	U.S.
		AEP-AGSPOIL-1994	U.S.
		AEP-AGSPOIL-1995	U.S.
		AEP-AGSPOIL-1996	U.S.
		AEP-AGSPOIL-1997	U.S.
		AEP-AGSPOIL-1998	U.S.
		AEP-AGSPOIL-1999	U.S.
		AEP-AGSPOIL-2000	U.S.
		AEP-AGSPOIL-2001	U.S.
		AEP-AGSPOIL-2002	U.S.
		AEP-Fernwood-2001	U.S.
		AEP-FM-1991	U.S.
		AEP-FM-1992	U.S.
		AEP-FM-1993	U.S.
		AEP-FM-1994	U.S.
		AEP-FM-1995	U.S.
		AEP-FM-1996	U.S.
		AEP-FM-1997	U.S.
		AEP-FM-1998	U.S.
		AEP-FM-1999	U.S.
		AEP-FM-2000	U.S.
		AEP-FM-2001	U.S.
		AEP-FM-2002	U.S.
		AEP-MARAG- 1992	U.S.
		AEP-MARAG-1991	U.S.
		AEP-MARAG-1993	U.S.
		AEP-MARAG-1993-2	U.S.
		AEP-MARAG-1994	U.S.
		AEP-MARAG-1994-2	U.S.
		AEP-MARAG-1995	U.S.
		AEP-MARAG-1996	U.S.
		AEP-MARAG-1997	U.S.
		AEP-MARAG-1998	U.S.
		AEP-MARAG-1999	U.S.
		AEP-MARAG-2000	U.S.
		AEP-Private lands-2001	U.S.
		AEP-Private Lands-2002	U.S.
		AEP-West Land Management	U.S.
		Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Catahoula Reforestation Project-2001	U.S.
		Catahoula-Reforestation Project-2002	U.S.
		DUNDAS-AGSPOIL-1998	U.S.
		DUNDAS-MARAG-1998	U.S.
		ECCF-AGSPOIL-1995	U.S.
		ECCF-AGSPOIL-1997	U.S.
		ECCF-AGSPOIL-1998	U.S.
		ECCF-AGSPOIL-2000	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
		ECCF-MARAG-1991	U.S.
		ECCF-MARAG-1992	U.S.
		ECCF-MARAG-1993	U.S.
		ECCF-MARAG-1995	U.S.
		ECCF-MARAG-1996	U.S.
		ECCF-MARAG-1997	U.S.
		ECCF-MARAG-1998	U.S.
		ECCF-MARAG-1999	U.S.
		ECCF-MARAG-2000	U.S.
		Guaraquecaba Climate Action Project	Foreign
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Noel Kempff Mercado Climate Action Project	Foreign
		Ohio Central Station Site-MARAG-1996	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		USFWS Catahoula Reforestation Project-2002	U.S.
		WCFGPL-MARAG-1996	U.S.
		WCFGPL-MARAG-2000	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
		WILDS PROJECT-MARAG-1998	U.S.
Bountiful City Light & Power	1605	Tree planting	U.S.
ChevronTexaco Corporation	1605EZ	ChevronTexaco Lower Mississippi River Valley Reforestation	U.S.
Cinergy Corp.	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Cinergy Corp. Ducks Unlimited Bottomland Hardwood Reforest.	U.S.
		Cinergy Corp. The Nature Conservancy Reforestation and Bio.	U.S.
		Cinergy Corp. Wild Turkey Federation Operation Big Sky.	U.S.
		Facility Tree Planting Program	U.S.
		Hendricks County McCloud Park Project	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		NICHES project	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		Rio Bravo Carbon Sequestration Pilot Project (Full Share)	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Sycamore Land Trust	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
		WRP Tree Planting Program	U.S.
City of Edmond, Oklahoma, Electric Department	1605EZ	Trees/Shrubs Planting	U.S.
City of Klamath Falls- Cogen	1605	Oregon Forest Resources Trust Reforestation Program	U.S.
City Public Service	1605	Tree Planting	U.S.
City Utilities of Springfield	1605	Urban Forestry	U.S.
Cleco Corporation	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Bayou Jean de Jean Reforestation	U.S.
		Maknockanut Lake Plantation Carbon Unit #1	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Conectiv Atlantic Generation (CAG)	1605	Urban Tree Planting	U.S.
		Wetlands Reclamation Project	U.S.
Conectiv Delmarva Generation	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St Catherine Creek BHFR ESI	U.S.
		St. Catherine BHFR Project	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Urban Tree Planting	U.S.
		Western Oregon Carbon Sequestration Project	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Constellation Energy Group, Inc	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
DTE Energy/ Detroit Edison	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Forest Land Management	U.S.
		Miscellaneous Tree Plantings - 1999	U.S.
		Miscellaneous Tree Plantings - 1995	U.S.
		Miscellaneous Tree Plantings - 1996	U.S.
		Miscellaneous Tree Plantings - 1997	U.S.
		Miscellaneous Tree Plantings - 1998	U.S.
		Miscellaneous Tree Plantings - 2000	U.S.
		Miscellaneous Tree Plantings - 2001	U.S.
		Miscellaneous Tree Plantings - 2002	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		Rio Bravo Carbon Sequestration Pilot Project (Full Share)	Foreign
		Southeast Michigan Afforestation - 1996	U.S.
		Southeast Michigan Afforestation - 1997	U.S.
		Southeastern Michigan Afforestation - 1995	U.S.
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		State Forest Land Afforestation - 1996	U.S.
		State Forest Land Afforestation - 1997	U.S.
		State Forest Land Afforestation - 1998	U.S.
		State Forest Land Afforestation - 1999	U.S.
		State Forest Land Afforestation - 2000	U.S.
		State Forest Land Afforestation - 2001	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Duke Energy Corporation	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Dynegy Midwest Generation Inc.	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Dynegy Mississippi River Valley Reforestation Project	U.S.
		IDNR Tree Planting Partnership	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Entergy Services, Inc.	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Entergy Forestry Projects	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
		Wetlands and Carbon Sequestration - Southeast LA & TX	U.S.
Environmental Synergy, Inc.	1605	ESI Bottomland Hardwood Restoration Project	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Exelon Corporation	1605	Afforestation	U.S.
		Illinois Prairie Grass Plantings	U.S.
		Urban Tree Planting	U.S.
		Utility Pole Reuse	U.S.
FirstEnergy Corporation	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Municipal Tree Replacement	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Tree Source	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
FPL Group	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Golden Valley Electric Association, Inc	1605EZ	Tree Give-Away for planting under power lines	U.S.
Hawaiian Electric Company, Inc.	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
J.M. Gilmer and Company, Inc.	1605	Flatwoods Tract Afforestation Project	U.S.
		River Road Afforestation Project	U.S.
		Smith Place Short Rotation Woody Crop Project	U.S.
		Smith Place Tract Afforestation Project	U.S.
JEA	1605EZ	Urban Forestry	U.S.
Kansas City Power & Light Company	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Los Angeles Department of Water and Power	1605	Cool Schools Urban Forestry Project	U.S.
		Mountain Reforestation Project	U.S.
		Trees for a Green LA	U.S.
Minnesota Power	1605	Short Rotation Woody Crop Establishment	U.S.
Nashville Electric Service	1605EZ	Ongoing Urban Forestry (Tree Planting)	U.S.
Nebraska Public Power District	1605EZ	Tree planting	U.S.
		Tree planting	U.S.
NiSource/NIPSCO	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		Rural Tree Planting	U.S.
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Urban Tree Planting	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Old Dominion Electric Cooperative	1605	Clover Power Station - Visual Screening	U.S.
Omaha Public Power District	1605EZ	Tree Planting	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
PacifiCorp	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Noel Kempff Mercado Climate Action Project	Foreign
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Reforestation in Eastern Washington	U.S.
		Reforestation of Private Lands in Oregon - Site Class II	U.S.
		Reforestation of Private Lands in Oregon - Site Class III	U.S.
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		Rio Bravo Carbon Sequestration Pilot Project (Full Share)	Foreign
		Salt Lake City Urban Forestry Project	U.S.
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
PG&E Corporation	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Reduced Impact Logging Project (NEP Pilot Project)	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Portland General Electric Co.	1605	Friends of Trees	U.S.
Public Service Enterprise Group	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Rappahannock Electric Cooperative	1605	Tree Planting	U.S.
Sacramento Municipal Utility District	1605	Shade Tree Program	U.S.
Santee Cooper	1605	Afforestation/Reforestation	U.S.
Seattle City Light	1605	Urban Tree Replacement Program	U.S.
Shenandoah Valley Electric Cooperative	1605	Visual Screening-Tree Planting	U.S.
South Carolina Electric & Gas Company	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Forest Management Plan	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Southern California Edison Co.	1605	Forestation at Shaver Lake	U.S.
		Harvesting Timber at Shaver Lake	U.S.
		Net Growth of Timber at Shaver Lake	U.S.
		Urban Donation of tree seedlings from Shaver Lake nursery	U.S.
Southern Company[p]	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Carbon Sequestration on Company Lands	U.S.
		Carbon Sequestration on Noncompany Lands	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Tacoma Power	1605EZ	Afforestation	U.S.
		Forest Preservation	U.S.
		Reforestation	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Tampa Electric Company	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Tennessee Valley Authority	1605	Afforestation On TVA Lands	U.S.
		Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
The Empire District Electric Co.	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Tucson Electric Power Company	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Trees for Tucson	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
TXU	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Texas Reforestation Foundation	U.S.
		TXU's Participation in the Texas Reforestation Foundation	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Utah Municipal Power Agency	1605EZ	Tree Planting	U.S.
Waverly Light & Power Company	1605	Trees Forever (Project 8.1)	U.S.
We Energies	1605	Bayou Cocodrie Bottomland Hardwood Forest Restoration	U.S.
		Mississippi River Valley Bottomland Hardwood Restoration	U.S.
		Overflow Bottomland Hardwood Forest Restoration Project	U.S.
		Reduced Impact Logging of Natural Forest in Malaysia	Foreign
		Rio Bravo Carbon Sequestration Pilot Project	Foreign
		Rio Bravo Carbon Sequestration Pilot Project (Full Share)	Foreign
		Rio Bravo Carbon Sequestration Pilot Project Expansion	Foreign
		St. Catherine-ESI	U.S.
		St. Catherine-NFWF	U.S.
		Upper Ouachita River Valley Bottomland Hardwood Restoration	U.S.
		Western Oregon Carbon Sequestration Project	U.S.
Wisconsin Public Power Inc.	1605EZ	Tree Power (1991 - 2002 Plantings)	U.S.
Zeeland Board of Public Works	1605EZ	Urban Forestry	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Halogenated Substances			
Advanced Micro Devices	1605EZ	Conversion of Dielectric Film Deposition Chamber Clean Gas	U.S.
Alcan Primary Metals Group, Sebree Works	1605	PFC Reduction Project	U.S.
Allegheny Energy, Inc.	1605	SF6 Breaker Replacement	U.S.
Allergan, Inc.	1605	CFC Substitution with Chiller Replacement	U.S.
		Elimination of CFCs at Farnborough, UK	Foreign
		Elimination of CFCs at U.S. Plants	U.S.
American Electric Power, Inc.	1605	Sulfur Hexafluoride Gas Reduction	U.S.
Cinergy Corp.	1605	SF6 Emission Reduction Partnership	U.S.
City Public Service	1605	SF6 Inventory	U.S.
City Utilities of Springfield	1605	SF6 Recovery	U.S.
CLE Resources	1605	Valdor	U.S.
Consolidated Edison Company of New York, Inc.	1605	SF6 Best Management Practices	U.S.
Constellation Energy Group, Inc	1605	Refrigerant/Solvent Recycling and Reduction	U.S.
		SF6 Handling Procedures in Electric Distribution	U.S.
Duke Energy Corporation	1605	Tranmission Breaker Repairs	U.S.
Entergy Services, Inc.	1605	SF6 Reductions	U.S.
FirstEnergy Corporation	1605	Refrigerator Recycling	U.S.
		SF6 Emissions Reduction	U.S.
		Various CFC Replacements	U.S.
FPL Group	1605	SF6 Reductions	U.S.
Lucent Technologies Inc.	1605	Replacement of TCE in Circuit Board Cleaning Operation	U.S.
Madison County Depart. of Solid Waste & Sanitation	1605	Refrigerant Recovery	U.S.
Minnesota Power	1605	Electricity Substation, SF6 Breaker Replacement	U.S.
National Grid USA	1605	Appliance Removal Program, Residential DSM Programs	U.S.
		Refrigerator Roundup	U.S.
		SF6 Emission Reductions - New England	U.S.
		SF6 Emission Reductions - New York	U.S.
NiSource/NIPSCO	1605	Ozone Depleting Chemicals	U.S.
		SF6 Reductions	U.S.
Noranda Aluminum Inc.	1605	PFC Emission Reduction via Reductions in Anode Effects	U.S.
PG&E Corporation	1605	SF6 Emission Reduction Partnership	U.S.
Sacramento Municipal Utility District	1605	Sulfur Hexaflouride Inventory	U.S.
Southern California Edison Co.	1605	SF6 Gas Management Program	U.S.
Southern Company[p]	1605	Sulfur Hexafluoride (SF6) Emissions Reductions	U.S.
Tennessee Valley Authority	1605	CFC Management	U.S.
Tucson Electric Power Company	1605	R-11 Recycling	U.S.
		R-12 Emission Avoidance	U.S.
		R-22 Recycling	U.S.
		SF6 Recycling	U.S.
TXU	1605	SF6 Reductions	U.S.
We Energies	1605	CFC-12 Recovery from Appliance Turn-In Program	U.S.
Xcel Energy	1605	Appliance Recycling	U.S.
		Low Income Refrigerator Replacement	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Other Emission Reduction Projects			
AES Warrior Run, Inc.	1605	Carbon Dioxide Plant	U.S.
Allegheny Energy, Inc.	1605	EnviroTech Fund - Domestic Activities	U.S.
		EnviroTech Fund - Foreign Activities	Foreign
		Fly Ash use as replacement for cement	U.S.
Alliant Energy	1605	Fly Ash Utilization	U.S.
		Recycling Activities	U.S.
Ameren Corporation (formerly UE and CIPS)	1605	Flyash substitution for cement	U.S.
American Electric Power, Inc.	1605	Enviro Tech Investment Fund I Limited Partnership - US	U.S.
		Enviro Tech Investment Funds - Foreign	Foreign
		Fly Ash Utilization Program (Cement Replacement)	U.S.
Arizona Electric Power Cooperative, Inc.	1605EZ	Fly Ash Sales	U.S.
		Solar Electric Power Associates	U.S.
AT&T	1605	Recycling/Takeback/Reuse Projects	U.S.
Blue Source, LLC	1605	Mississippi EOR	U.S.
		West Texas CO2 Pipeline-EOR	U.S.
		West Texas EOR-A	U.S.
		Wyoming EOR	U.S.
Burlington County Board of Chosen Freeholders[p]	1605	Burlington County Regional Recycling Program	U.S.
Cinergy Corp.	1605	Benificial Use of Coal Fly Ash	U.S.
		Recycling Programs	U.S.
City of Austin Electric Utility (Austin Energy)	1605EZ	Coal Combustion Byproduct Reutilization	U.S.
City Public Service	1605	All Other Recycling	U.S.
		Flyash Sales	U.S.
Conectiv Delmarva Generation	1605	Ash Reuse	U.S.
Constellation Energy Group, Inc	1605	Coal Ash Substitution for Portland Cement	U.S.
		Solid Waste Recycling and Source Reduction	U.S.
Dakota Gasification Company	1605	CO2 Compression/Miscible Flood Project- Domestic	U.S.
		CO2 Compression/Miscible Flood Project- Foreign	Foreign
DTE Energy/ Detroit Edison	1605	Coal Ash Reuse - Canada	Foreign
		Coal Ash Reuse - U.S.	U.S.
Duke Energy Corporation	1605	Recycling Flyash	U.S.
Dynegy Midwest Generation Inc.	1605	Flyash Sales (Baldwin, Havana, Hennepin, Vermilion, Wd Rvr)	U.S.
Entergy Services, Inc.	1605	Fly Ash use as replacement for cement	U.S.
Exelon Corporation	1605	Investment Recovery/Life Cycle Management/Recycling	U.S.
FirstEnergy Corporation	1605	Recycling Program	U.S.
		Substitution of Fly Ash for Portland Cement in Concrete	U.S.
FPL Group	1605	FPL Corporate Recycling	U.S.
Green Mountain Energy Company	1605	All other GMEC customers	U.S.
		Kinko's	U.S.
Kansas City Power & Light Company	1605	Coal Fly Ash Recycling	U.S.
		ENVIROTECH Fund	U.S.
Los Angeles Department of Water and Power	1605	LADWP Recycling Program	U.S.
Lower Colorado River Authority	1605	Coal Combustion By-Product Recycling	U.S.
Lucent Technologies Inc.	1605	LU - #1 (US only)	U.S.
		LU - #2 (International)	Foreign
Madison County Depart. of Solid Waste & Sanitation	1605	Recycling	U.S.
Minnesota Power	1605	Waste Paper Recycling Development	U.S.
Minnesota Resource Recovery Association (MRRA)	1605EZ	Paper Recycling - CO2	U.S.
		Paper Recycling - Methane	U.S.
National Grid USA	1605	Coal Ash Utilization	U.S.
		Investment Recovery Program (Recycling)	U.S.
Nebraska Public Power District	1605EZ	CH4 Reductions from Material Recycling	U.S.
		Coal Ash Reuse	U.S.
		Materials Recycling	U.S.
NiSource/NIPSCO	1605	Coal Combustion Byproduct Utilization	U.S.
		Employee Training	U.S.
		Recycling program	U.S.
Omaha Public Power District	1605EZ	Recycling Fly Ash	U.S.
		Recycling Programs	U.S.
PacifiCorp	1605	Coal Ash Recycling	U.S.
		Ethanol Production Carbon Offset Project	U.S.
PG&E Corporation	1605	Coal Ash Recycling as Cement Replacement	U.S.
		Natural Gas Star Program - PG&E California	U.S.
		Natural Gas Star Program - PG&E National Energy Group	U.S.
Pharmacia & Upjohn Caribe Inc.	1605EZ	Thermal Oxidizer Project for VOC/HAP Destruction	U.S.
Platte River Power Authority & 4 Owner Cities	1605	Estes Park Recycling Program	U.S.
		Fort Collins Recycling Program	U.S.
		Loveland Recycling Program	U.S.
		PRPA Paper Recycling Program	U.S.

Table B10. Emission Reduction Projects Reported by Project Type, Data Year 2002 (Continued)

Project Section & Reporter Name	Form Type	Project	Location
Portland General Electric Co.	1605	Fly Ash Reuse Program	U.S.
		PGE Corporate Recycling Program	U.S.
Public Service Enterprise Group	1605	Resource Recovery Coal Ash Management Program	U.S.
		WasteWise	U.S.
Public Utility District No. 1 of Snohomish County	1605	Scrap Metals Recycling	U.S.
		We-cycle Office Wastepaper (WOW) Program	U.S.
Salt River Project	1605EZ	Fly Ash Sales	U.S.
		Recycling (CH4 Reductions)	U.S.
		Recycling (CO2 Reduction)	U.S.
Santee Cooper	1605	Fly Ash Used in Concrete Manufacture	U.S.
Seminole Electric Cooperative, Inc.	1605EZ	Fly Ash & Bottom Ash Reuse	U.S.
		Synthetic Gypsum Production	U.S.
South Carolina Electric & Gas Company	1605	Coal Ash Utilization Program	U.S.
Southern California Edison Co.	1605	Fly Ash Sales for Concrete Production	U.S.
		SCE Waste-Not Program	U.S.
Southern Company[(p)]	1605	EnviroTech Investments	U.S.
Springs Industries, Inc.	1605EZ	Recycling & Source Reduction	U.S.
		Recycling & Source Reduction	U.S.
		Recycling & Source Reduction - CH4 Reduction	U.S.
		Recycling & Source Reduction - CO2 Reduction	U.S.
Tampa Electric Company	1605	Fly Ash Reuse	U.S.
Tennessee Valley Authority	1605	Flyash Sales To Concrete Industry	U.S.
		Paper Recycling	U.S.
Texas Genco, LP	1605	Coal Fly Ash Sales	U.S.
Tucson Electric Power Company	1605	Coal Ash Reuse	U.S.
TXU	1605	Coal Ash Byproduct Use	U.S.
		Paper and Aluminum Recycling	U.S.
		Ranger Exhaust Gas Project	U.S.
Utah Municipal Power Agency	1605EZ	Energy Education Program	U.S.
We Energies	1605	Fly ash substitution program	U.S.
Xcel Energy	1605	Coal ash utilization-NSP	U.S.
		Coal Ash Utilization-PSCo	U.S.
		Coal Ash Utilization-SPS	U.S.
		Recycling program-NSP	U.S.
		Recycling Program--PSCo	U.S.
		Recycling Program--SPS	U.S.

Note: [(p)] Indicates that the report has Preliminary status, meaning the initial submission has been reviewed by EIA but a final version has not been accepted.
Note: The total number of reporters is smaller than the sum of the numbers of reporters for each project type because most reporters provided information on projects of more than one type. This table excludes data reported as confidential.
Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ

Table B11. Reporting Entities and Sectors, Years Reported and Form Type, Data Years 1994-2002

Reporter	Sector	1994	1995	1996	1997	1998	1999	2000	2001	2002
8309 Tujunga Avenue Corporation	Alternative Energy							1605	1605	
A&N Electric Cooperative	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Abe Krasne Home Furnishings, Inc.	Services and Retail					1605	1605	1605		1605
Advanced Micro Devices	Industrial				1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
ADVANE Heli-Welders	Industrial					1605 EZ				
AES Hawaii, Inc.	Electric Providers			1605	1605	1605	1605	1605	1605	1605
AES Shady Point LLC	Electric Providers			1605	1605	1605	1605	1605	1605	1605
AES Thames	Electric Providers			1605	1605	1605	1605	1605	1605	1605
AES Warrior Run, Inc.	Electric Providers							1605	1605	1605
Agilent Technologies	Industrial								1605	
Air Exchange, Inc.	Services and Retail					1605				
Ajinomoto Aminoscience LLC	Industrial							1605	1605	1605
Alabama Biomass Partners, Ltd	Alternative Energy					1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Alcan Primary Metals Group, Sebree Works	Industrial	1605	1605	1605	1605	1605	1605	1605	1605	1605
Allegheny Energy, Inc.	Electric Providers	1605	1605	1605	1605	1605	1605	1605		1605
Allergan, Inc.	Industrial					1605	1605	1605	1605	1605
Alliant Energy	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Ameren Corporation (formerly UE and CIPS)	Electric Providers					1605	1605	1605	1605	1605
AmerenCIPS	Electric Providers	1605	1605	1605	1605					
American Electric Power, Inc.	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
American Forests	Agricultural		1605	1605	1605	1605	1605	1605		
American Municipal Power - Ohio	Electric Providers			1605	1605	1605	1605	1605	1605	
AMERICAN SOILS	Industrial					1605 EZ				
Anoka Municipal Utility	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Arizona Electric Power Cooperative, Inc.	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Arizona Portland Cement Co.	Industrial				1605	1605	1605	1605	1605	
Arizona Public Service Company	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Arthur Rypinski & Jacquelyn Porth	Other	1605	1605	1605	1605	1605	1605	1605	1605	
Asheville Landfill Gas, LLC	Alternative Energy				1605	1605	1605	1605	1605	1605
AT&T	Industrial						1605			1605
Atlas Paper Mills	Industrial						1605	1605		
Audros Corporation	Industrial					1605 EZ				
Austin Parks & Rec. Dept.- Urban Forestry Program	Other							1605		
Austin Quality Foods, Inc.	Industrial							1605		
Avista Utilities	Electric Providers						1605	1605		
Azdel, Inc	Industrial							1605	1605	1605
BARC Electric Cooperative	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Baxter Healthcare Inc.	Industrial							1605	1605	1605
BAYER Corporation	Industrial					1605				
Berkeley Electric Cooperative	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ					
Berkshire Power LLC	Electric Providers								1605	1605
Bethlehem Steel Corporation[p]	Industrial					1605	1605	1605	1605	1605
Biomass Partners, LP	Alternative Energy					1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Black Beauty Coal Company, c/o Peabody Energy	Alternative Energy									1605
Blue Earth Light & Water	Electric Providers		1605							
Blue Source, LLC	Industrial									1605
Bountiful City Light & Power	Electric Providers	1605 EZ	1605	1605	1605	1605	1605		1605	1605
BP	Industrial				1605	1605		1605		
Branson Ultrasonics Corporation	Industrial							1605		1605
Brooklyn Union	Industrial	1605 EZ	1605 EZ	1605 EZ						
Buckeye Power Incorporated	Electric Providers	1605	1605 EZ		1605					
Burlington County Board of Chosen Freeholders[p]	Services and Retail				1605	1605	1605	1605	1605	1605
California Portland Cement Co. - Colton Plant	Industrial				1605	1605	1605	1605	1605	
California Portland Cement Co. - Mojave Plant	Industrial				1605	1605	1605	1605	1605	
Cargill, Inc. - Oil Seeds Division	Industrial							1605	1605	1605
Carolina Power & Light Company	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Carter H. Lewis, III	Other	1605 EZ								
Catawba Landfill Gas, LLC	Alternative Energy					1605	1605	1605	1605	1605
CDX Gas, LLC	Alternative Energy					1605	1605	1605	1605	1605
Cedar Falls Utilities	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	
Centerior Energy Corporation	Electric Providers	1605	1605	1605	1605					
Central and South West Corporation	Electric Providers				1605	1605	1605			
Central Hudson Gas & Electric Corporation	Electric Providers	1605	1605	1605	1605	1605	1605	1605		
Central Illinois Light Company	Electric Providers	1605	1605	1605	1605					
Cereza Energy, Inc.	Alternative Energy					1605				
ChevronTexaco Corporation	Industrial							1605 EZ	1605 EZ	1605 EZ
Choptank Electric Cooperative	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Cinergy Corp.	Electric Providers	1605	1605	1605	1605	1605		1605	1605	1605
City of Austin Electric Utility (Austin Energy)	Electric Providers	1605	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
City of Edmond, Oklahoma, Electric Department	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
City of Fairfield Wastewater Division	Services and Retail				1605 EZ	1605 EZ				
City of Klamath Falls- Cogen	Electric Providers								1605	1605

Table B11. Reporting Entities and Sectors, Years Reported and Form Type, Data Years 1994-2002 (Continued)

Reporter	Sector	1994	1995	1996	1997	1998	1999	2000	2001	2002
City of Palo Alto	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
City of Sherrill Power & Light	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ					
City of Wayne	Electric Providers	1605 EZ	1605 EZ							
City Public Service	Electric Providers								1605	1605
City Utilities of Springfield	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Clairol	Industrial						1605			
CLE Resources	Industrial			1605	1605	1605	1605	1605	1605	1605
Cleco Corporation	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
CMS Energy	Electric Providers						1605	1605	1605	
CMV Joint Venture	Alternative Energy					1605	1605		1605	1605
Columbia Falls Aluminum Company, LLC	Industrial			1605	1605	1605	1605	1605	1605	
COM/Electric	Electric Providers		1605 EZ	1605 EZ	1605 EZ	1605 EZ				
CommonWealth Bethlehem Energy, LLC	Alternative Energy					1605	1605	1605		
Commonwealth Edison Company (ComEd)	Electric Providers	1605	1605	1605	1605	1605	1605	1605		
COMMSCOPE CATAWBA PLANT	Industrial							1605	1605	1605
COMMSCOPE CLAREMONT PLANT	Industrial								1605	1605
COMMSCOPE CONOVER REEL RECYCLING	Industrial								1605	1605
COMMSCOPE Headquarters- Hickory	Industrial									1605
COMMSCOPE NEWTON PLANT	Industrial								1605	1605
COMMSCOPE SCOTTSBORO PLANT	Industrial								1605	1605
COMMSCOPE SPARKS PLANT	Industrial								1605	1605
COMMSCOPE STATESVILLE PLANT	Industrial								1605	1605
Community Electric Cooperative	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Conectiv Atlantic Generation (CAG)	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Conectiv Delmarva Generation	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Consol Coal Group	Industrial		1605	1605		1605	1605	1605	1605	1605
Consolidated Edison Company of New York, Inc.	Electric Providers							1605	1605	1605
Constellation Energy Group, Inc	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Cooperative Power Association	Electric Providers	1605	1605	1605	1605	1605				
County Sanitation Districts of Los Angeles County	Alternative Energy					1605	1605	1605	1605	1605
Dade Behring, Inc.	Industrial					1605				
DaimlerChrysler Corporation	Industrial								1605	1605
Dakota Gasification Company	Industrial									1605
Danaher Controls	Industrial							1605	1605	1605
DeBourgh Manufacturing Company	Industrial		1605	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Delaware Electric Cooperative	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Delaware Solid Waste Authority	Alternative Energy						1605	1605	1605	1605
Delta Electric Power Association	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ		
Deptford Electric Company, LLC	Alternative Energy							1605		
Dominion Energy, L.P.	Alternative Energy					1605				
Dominion Generation	Electric Providers							1605	1605	1605
Doxey Furniture Corporation	Industrial							1605	1605	1605
Dragon Products Company, Inc.	Industrial			1605		1605				
Drummond Company, Inc.	Industrial							1605	1605	1605
DTE Energy/ Detroit Edison	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Duke Energy Corporation	Electric Providers					1605	1605	1605	1605	1605
Duke Engineering and Services	Alternative Energy			1605 EZ	1605 EZ					
Duke Power Company	Electric Providers	1605	1605	1605	1605					
DuPont Company	Industrial		1605		1605	1605		1605		
Duquesne Light Company	Electric Providers		1605	1605	1605	1605				
Dynegy Midwest Generation Inc.	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
East River Electric Power Cooperative, Inc.	Electric Providers	1605 EZ	1605 EZ	1605 EZ						
Eaton Corporation - Commercial Controls Division	Industrial							1605	1605	
Ecogas Corporation	Alternative Energy					1605	1605			
El Paso Production Company	Alternative Energy						1605	1605	1605	1605
Energy Management Partners, LP	Alternative Energy					1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Energy Northwest	Electric Providers							1605 EZ		
Engelhard	Industrial					1605				
Enron Renewable Energy Corporation	Alternative Energy			1605 EZ						
Entergy Services, Inc.	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
EnviroGas Limited Partnership	Alternative Energy		1605							
Environmental Synergy, Inc.	Agricultural						1605 EZ	1605 EZ		1605
Environmentally Correct Concepts, Inc.	Agricultural				1605					
Essential Foods, Inc.	Industrial					1605	1605			
Essroc Cement Corp. -- Bessemer, Pa Plant	Industrial					1605	1605			
Essroc Cement Corp. -- Essexville, MI Plant	Industrial					1605	1605			
Essroc Cement Corp. -- Frederick, MD Plant	Industrial					1605	1605			
Essroc Cement Corp. -- Logansport, IN Plant	Industrial					1605	1605			
Essroc Cement Corp. -- PA Operations	Industrial					1605	1605			
Essroc Cement Corp. -- San Juan, PR Plant	Industrial					1605	1605			
Essroc Cement Corp. - Speed, IN Plant	Industrial					1605	1605			
Exelon Corporation	Electric Providers								1605	1605
Fayetteville Gas Company, LLC.	Alternative Energy			1605	1605					
Fidelity Exploration & Production Company	Alternative Energy							1605	1605	
FirstEnergy Corporation	Electric Providers					1605	1605	1605	1605	1605

Table B11. Reporting Entities and Sectors, Years Reported and Form Type, Data Years 1994-2002 (Continued)

Reporter	Sector	1994	1995	1996	1997	1998	1999	2000	2001	2002
Fisher Scientific Company L.L.C	Industrial									1605
Flint Electric Membership Corporation	Electric Providers	1605 EZ	1605 EZ							
Florida Power Corporation	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Florida Transport 82	Industrial						1605	1605		
Ford Motor Company	Industrial								1605	1605
FPL Group	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Fred Weber, Inc.	Alternative Energy					1605 EZ	1605 EZ			
Gas Recovery Systems	Alternative Energy						1605		1605	1605
General Motors Corporation	Industrial	1605	1605	1605	1605	1605	1605	1605	1605	1605
Generating Resource Recovery Partners, L.P.	Electric Providers							1605	1605	
GeoMet Inc.	Alternative Energy					1605	1605	1605	1605	1605
Gilead Sciences	Industrial				1605 EZ	1605 EZ	1605 EZ			
Golden Valley Electric Association, Inc	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
GPU, Inc.	Electric Providers	1605	1605	1605	1605	1605	1605	1605		
Granger Electric Company	Alternative Energy			1605	1605	1605	1605	1605	1605	1605
Granger Energy, LLC	Alternative Energy								1605	1605
Grayson Hill Farms	Agricultural					1605 EZ				
Greater Caribbean Energy & Environment Foundatic	Agricultural						1605 EZ	1605 EZ		
Greater New Bedford Regional Refuse Mgt District	Alternative Energy							1605	1605	1605
Green Mountain Energy Company	Electric Providers									1605
Greene Energy, LLC	Alternative Energy								1605 EZ	1605 EZ
GSF Energy, LLC	Alternative Energy			1605	1605	1605				
Hanes Dye and Finishing, Butner Plant	Industrial									1605
Hanes Dye and Finishing, Winston-Salem Plant	Industrial							1605	1605	1605
Hawaiian Electric Company, Inc.	Electric Providers					1605	1605	1605	1605	1605
Highland Industries, Inc.	Industrial							1605	1605	1605
Hopkinsville Electric System	Electric Providers	1605 EZ	1605 EZ		1605 EZ					
IBM	Industrial	1605	1605	1605	1605	1605	1605	1605	1605	1605
Imperial Plating	Industrial					1605				
Indiana Association of SWCDs	Agricultural								1605	
Industrial Equipment and Supplies	Industrial					1605				
Integrated Waste Services Association	Alternative Energy		1605	1605	1605	1605	1605	1605	1605	1605
International Truck and Engine Corporation	Industrial					1605	1605	1605	1605	1605
Iredell Landfill Gas, LLC	Alternative Energy				1605	1605	1605	1605	1605	1605
J. Bradford Hollomon	Other									1605 EZ
J.M. Gilmer and Company, Inc.	Agricultural		1605	1605	1605	1605	1605	1605	1605	1605
JEA	Electric Providers		1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Jim Walter Resources, Inc.	Alternative Energy					1605	1605	1605	1605	1605
Johnson & Johnson	Industrial	1605	1605	1605	1605	1605	1605	1605	1605	1605
Kansas City Power & Light Company	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
KeySpan Energy Corporation	Electric Providers						1605	1605	1605	1605
Klickitat County Public Utility District No. 1	Electric Providers								1605	1605
L`OREAL USA - Florence Manufacturing	Industrial							1605		
Lafarge U.S. Cementitious	Industrial							1605		
LAHD Energy, Inc.	Alternative Energy			1605 EZ	1605 EZ	1605 EZ	1605 EZ			
Landfill Energy Systems	Alternative Energy							1605	1605	1605
Lehigh Cement Co. (fmrly Lehigh Portland Cement (	Industrial						1605	1605	1605	1605
Lehigh Cement Co. (formerly Calaveras Cement Co	Industrial						1605	1605	1605	1605
LFG Energy, Inc.	Alternative Energy		1605 EZ	1605 EZ		1605	1605	1605	1605	1605
Lockheed Martin	Industrial		1605							
Long Island Lighting Company	Electric Providers	1605	1605	1605	1605					
Long Island Power Authority & KeySpan Energy	Electric Providers					1605				
Los Angeles Department of Water and Power	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Lower Colorado River Authority	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Lucent Technologies Inc.	Industrial			1605	1605	1605	1605	1605	1605	1605
Lynchburg Gas Producers, LLC	Alternative Energy							1605	1605	1605
M. J. SOFFE COMPANY - Maxton	Industrial								1605	1605
M. J. SOFFE COMPANY - Bladenboro	Industrial								1605	1605
M. J. SOFFE COMPANY Fayettville	Industrial							1605	1605	1605
M. J. SOFFE COMPANY Rowland	Industrial								1605	1605
Madison County Depart. of Solid Waste & Sanitatior	Alternative Energy						1605	1605	1605	1605
Majestic Metals, Inc.	Industrial		1605 EZ					1605 EZ		
Mallinckrodt, Inc.	Industrial							1605	1605	1605
Maple Springs Laundry	Services and Retail							1605	1605	1605
McMinnville Electric System	Electric Providers	1605 EZ	1605 EZ							
McNeil Generating Station	Electric Providers					1605	1605	1605	1605	1605
MCNIC Oil & Gas Co.	Alternative Energy			1605	1605	1605				
Mead Johnson Nutls/Bristol-Meyers Squibb	Industrial							1605	1605	1605
Mecklenburg Electric Cooperative	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Michigan CAT	Industrial							1605	1605	1605
Middlesex Generating Company, LLC	Alternative Energy							1605		1605
Miller Brewing Company, Eden, NC, Facility	Industrial							1605	1605	1605
Minnesota Power	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Minnesota Resource Recovery Association (MRRA)	Other			1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Missouri River Energy Services	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ			
Model City Energy, LLC	Alternative Energy								1605	1605

Table B11. Reporting Entities and Sectors, Years Reported and Form Type, Data Years 1994-2002 (Continued)

Reporter	Sector	1994	1995	1996	1997	1998	1999	2000	2001	2002
Montana Power Company	Electric Providers	1605	1605	1605	1605	1605				
Montauk Energy Capital	Alternative Energy									1605
Monteco Gas, LLC	Alternative Energy			1605 EZ	1605 EZ	1605				
Moorhead Public Service	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605	
Mora Municipal Utilities	Electric Providers	1605 EZ	1605 EZ							
Motorola Austin	Industrial				1605	1605	1605	1605	1605	1605
Municipal Electric Auth of Georgia (MEAG Power)	Electric Providers	1605	1605	1605	1605	1605			1605	1605
N.W. Electric Power Cooperative, Inc.	Electric Providers		1605 EZ							
Nashville Electric Service	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
National By-Products Inc	Industrial							1605	1605	1605
National Grid USA	Electric Providers						1605	1605	1605	1605
National Spinning Co., Inc. Washington	Industrial							1605	1605	1605
National Spinning Inc. Beulaville	Industrial								1605	1605
National Spinning Inc. Warsaw	Industrial								1605	1605
National Spinning Inc. Whiteville	Industrial								1605	1605
Natural Power, Inc.	Alternative Energy						1605	1605	1605	1605
Naval Air Engineering Station Lakehurst	Industrial							1605		
NC Muni Landfill Gas Partners, LLC	Alternative Energy			1605	1605	1605	1605	1605	1605	1605
Nebraska Public Power District	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
NEO Corporation	Alternative Energy						1605	1605	1605	1605
Nevada Power Company	Electric Providers				1605 EZ	1605 EZ				
New England Electric System (NEES) Company	Electric Providers	1605	1605	1605	1605					
New Jersey Meadowlands Commission	Alternative Energy							1605	1605	1605
New York Power Authority	Electric Providers	1605	1605		1605	1605		1605	1605	1605
Newton Landfill Gas, LLC	Alternative Energy			1605	1605	1605	1605	1605	1605	1605
Niagara Mohawk Power Corporation	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	
NiSource/NIPSCO	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Nissan North America, Inc.	Industrial									1605
Noranda Aluminum Inc.	Industrial	1605	1605	1605	1605	1605	1605	1605	1605	1605
North American Carbon, Inc.	Alternative Energy			1605	1605	1605	1605	1605	1605	1605
North Carolina Biomass Partners	Alternative Energy					1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
North Carolina Electric Membership Corporation	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Northeast Utilities	Electric Providers	1605	1605	1605	1605	1605	1605			
Northern Neck Electric Cooperative	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Northern Virginia Electric Cooperative	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Northrop Grumman Poly-Scientific	Industrial							1605	1605	1605
Northwest Fuel Development, Inc.	Alternative Energy	1605	1605	1605	1605	1605	1605	1605	1605	1605
NRG Energy Inc	Electric Providers							1605		
Oak Creek Energy Systems Inc.	Alternative Energy						1605	1605	1605	
Ocean County Landfill Corporation	Alternative Energy							1605	1605	1605
Ohio Edison Company	Electric Providers	1605	1605	1605	1605					
Old Dominion Electric Cooperative	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Omaha Public Power District	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Oregon State University (State of Oregon)	Services and Retai	1605	1605	1605	1605		1605			
Orlando Utilities Commission (OUC)	Alternative Energy									1605 EZ
Osage Municipal Utilities	Electric Providers	1605	1605	1605						
Pacific Energy Operating Group, LLP	Electric Providers							1605	1605	
Pacific Gas and Electric Company	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ				
Pacific Natural Energy, LLC	Alternative Energy							1605	1605	
Pacific Recovery Corporation	Alternative Energy							1605	1605	
PacifiCorp	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Pak-Lite, Inc. - Mebane Plant	Industrial							1605	1605	1605
Palmer Capital Corporation	Alternative Energy						1605	1605	1605	1605
Pan American Hospital	Services and Retai					1605				
Peabody Holding Company, Inc.	Industrial	1605	1605	1605	1605	1605			1605	1605
PECO Energy Company	Electric Providers					1605 EZ	1605	1605		
PEI Power Corp	Alternative Energy						1605	1605	1605	1605
Penn Compression Moulding, Inc.	Industrial							1605	1605	1605
PG&E Corporation	Electric Providers						1605	1605	1605	1605
Pharmacia & Upjohn Caribe Inc.	Industrial						1605 EZ	1605 EZ	1605 EZ	1605 EZ
Pine Mountain Oil and Gas, Inc.	Alternative Energy						1605 EZ			
Pintexs	Industrial					1605				
Pitt Landfill Gas, LLC	Alternative Energy					1605	1605	1605	1605	1605
Platte River Power Authority & 4 Owner Cities	Electric Providers				1605	1605	1605	1605		1605
Portland General Electric Co.	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Potomac Electric Power Company	Electric Providers	1605	1605	1605	1605					
PPL CORPORATION	Electric Providers	1605	1605	1605	1605	1605	1605	1605		
Pratt & Whitney North Berwick	Industrial						1605	1605		
Pratt & Whitney, Middletown	Industrial							1605	1605	
Prince George Electric Cooperative	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Public Service Company of New Mexico	Electric Providers			1605	1605	1605	1605	1605	1605	1605
Public Service Enterprise Group	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Public Utility District No. 1 of Snohomish County	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Puget Sound Energy, Inc.	Electric Providers	1605	1605	1605 EZ						
Quad/Graphics, Inc.	Industrial		1605		1605		1605	1605		
Rangely Weber Sand Unit	Industrial						1605	1605		

Table B11. Reporting Entities and Sectors, Years Reported and Form Type, Data Years 1994-2002 (Continued)

Reporter	Sector	1994	1995	1996	1997	1998	1999	2000	2001	2002
Rappahannock Electric Cooperative	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Redstone Gas Partners LLC	Alternative Energy						1605			
Republic Metals Corporation	Industrial						1605	1605	1605	1605
Rochester Gas and Electric Corporation	Electric Providers							1605	1605	1605
Rochester Institute of Technology	Services and Retail		1605	1605	1605		1605			
Rolls-Royce Corporation	Industrial						1605	1605	1605	1605
Rosewood Resources, Inc.	Alternative Energy						1605			
Sacramento Municipal Utility District	Electric Providers			1605	1605	1605	1605	1605	1605	1605
Salt River Project	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Santee Cooper	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Science Applications International Corporation	Services and Retail			1605 EZ						
Seattle City Light	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
SeaWest WindPower, Inc.	Alternative Energy					1605	1605	1605	1605	1605
Seminole Electric Cooperative, Inc.	Electric Providers	1605 EZ	1605 EZ		1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Seneca Energy II, LLC	Alternative Energy		1605 EZ	1605 EZ		1605	1605	1605	1605	1605
Seneca Meadows, Inc.	Alternative Energy		1605 EZ							
Separation Technologies, Inc	Industrial			1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ		
Shenandoah Valley Electric Cooperative	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Sherry Manufacturing	Industrial						1605	1605		
Shih Family	Other									1605 EZ
Shrewsbury Electric Light Plant	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Siemens Power Transmission & Distribution, Inc.	Industrial							1605	1605	1605
Sierra Pacific Power Company	Electric Providers	1605	1605	1605						
Sikorsky Aircraft Corporation	Industrial							1605	1605	1605
SONAT Exploration Company	Alternative Energy					1605				
South Carolina Electric & Gas Company	Electric Providers				1605	1605	1605	1605	1605	1605
Southeastern Biomass Partners, LP	Alternative Energy					1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Southern California Edison Co.	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Southern Company[(p)]	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Southside Electric Cooperative	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Springs Industries, Inc.	Industrial								1605 EZ	1605 EZ
Steuben Rural Electric Co-op	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Sunoco, Inc.	Industrial						1605	1605	1605	1605
SWEENEY Furniture	Services and Retail					1605 EZ				
Tacoma Power	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Tampa Electric Company	Electric Providers		1605	1605	1605	1605	1605	1605	1605	1605
Taunton Municipal Lighting Plant	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ				
Tennessee Valley Authority	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Texas Genco, LP	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
The Bentech Group of Delaware, Inc.	Alternative Energy						1605	1605	1605	
The Dow Chemical Company	Industrial		1605	1605	1605	1605	1605	1605	1605	1605
The Empire District Electric Co.	Electric Providers							1605	1605	1605
The Estee Lauder Companies	Industrial					1605	1605			1605
The Forest Bird Society	Other									1605
The Gillette Company	Industrial					1605	1605			
The Pacific Forest Trust, Inc.	Agricultural						1605 EZ			
The Virkler Company	Industrial							1605	1605	
Town of Colonie Solid Waste Management Facility	Alternative Energy						1605			
Toyota Motor North America, Inc.[(p)]	Industrial									1605
Trees for the Future	Agricultural	1605	1605							
TS Designs, Inc.	Industrial									1605
Tucson Electric Power Company	Electric Providers		1605		1605	1605		1605	1605	1605
TXU	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
U. S. Steel Mining Company, LLC	Alternative Energy					1605	1605	1605	1605	1605
U.S. Department of Energy - Energy Management	Services and Retail						1605		1605	1605
U.S. Department of Energy- Office of Solar	Services and Retail					1605	1605	1605	1605	
Union Electric Company	Electric Providers	1605	1605	1605	1605					
United Power Association	Electric Providers	1605	1605	1605	1605	1605				
Unocal Corporation	Industrial							1605	1605	
Urban Forestry Alliance	Agricultural					1605 EZ				
US Energy Biogas Corp.	Alternative Energy	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
USGen New England, Inc.	Electric Providers					1605				
Utah Municipal Power Agency	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Utility Board of Key West, FL	Electric Providers	1605 EZ								
Valdese Manufacturing Company	Industrial							1605	1605	1605
VANALCO, INC. - (Primary Aluminum Reduction Pla	Industrial			1605	1605	1605	1605			
Vermont Public Power Supply Authority	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Vermont Yankee Nuclear Power Corp.	Electric Providers							1605	1605	
Volvo Cars of North America, Inc.	Industrial			1605 EZ	1605 EZ	1605 EZ	1605 EZ			
Waste Management Inc.	Alternative Energy							1605	1605	1605
Waverly Light & Power Company	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
We Energies	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Western Resources, Inc.	Electric Providers	1605	1605	1605	1605	1605	1605	1605		
Whatcom Land Trust	Agricultural					1605	1605			
Wisconsin Public Power Inc.	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ
Wisconsin Public Service Corporation	Electric Providers	1605	1605	1605	1605	1605	1605			

Table B11. Reporting Entities and Sectors, Years Reported and Form Type, Data Years 1994-2002 (Continued)

Reporter	Sector	1994	1995	1996	1997	1998	1999	2000	2001	2002
World Parks Endowment	Agricultural					1605	1605			
World Wood Co.	Industrial							1605	1605	
Wyeth-Lederle Vaccines	Industrial							1605	1605	1605
Xcel Energy	Electric Providers	1605	1605	1605	1605	1605	1605	1605	1605	1605
Zeeland Board of Public Works	Electric Providers	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ	1605 EZ

Notes: [(p)] Indicates that the report has Preliminary status, meaning the initial submission has been reviewed by EIA but a final version has not been accepted.
Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ

Table B12. Project-Level Reductions by Entity Sector, Data Years 1994-2002
(Metric Tons Carbon Dioxide Equivalent)

Sector and Reduction Type	1994	1995	1996	1997	1998	1999	2000	2001 (R)	2002
Agriculture & Forestry									
Direct	--	--	--	-0.6	--	--	--	--	--
Indirect	--	6.8	6.8	--	--	--	--	--	--
Sequestration	356,558.8	234,702.2	35,198.7	39,527.2	2,046,934.5	431,291.1	112,746.8	2,749.9	7,398.1
Unspecified (EZ)	--	--	--	--	36,222.2	68,195.8	0.5	--	--
Alternative Energy									
Direct	261,496.0	25,769.5	-14,859,969.8	-15,366,381.4	22,577,221.3	26,000,314.4	47,805,594.6	49,931,904.0	59,208,508.1
Indirect	1,270.1	43,859,155.5	39,754,203.2	22,580,777.7	20,789,485.1	23,609,470.2	23,310,071.1	25,847,099.0	27,467,706.6
Sequestration	--	--	--	--	--	--	--	--	--
Unspecified (EZ)	560,913.9	1,146,892.6	1,273,056.8	1,343,821.2	2,499,685.6	3,051,879.0	2,913,611.0	3,768,992.9	7,277,366.7
Electric Providers									
Direct	59,004,436.5	85,222,962.8	100,982,856.3	105,172,388.1	118,256,785.1	124,424,203.4	155,776,659.5	191,759,783.9	198,759,086.8
Indirect	5,092,842.9	8,450,945.3	13,518,927.8	14,619,760.1	20,210,012.2	30,681,524.2	32,175,606.4	41,022,811.7	44,152,322.1
Sequestration	389,701.8	955,767.6	8,640,540.8	9,736,746.8	10,341,012.6	9,184,547.0	8,795,381.3	7,954,073.4	7,289,115.7
Unspecified (EZ)	3,721,044.1	4,969,791.4	4,332,595.8	6,568,087.6	15,472,773.5	8,247,572.5	7,829,631.3	9,729,782.1	8,394,708.6
Industrial									
Direct	3,347,075.1	3,074,795.4	3,756,581.1	5,013,299.1	6,882,518.5	4,819,723.6	7,013,834.7	5,600,719.2	6,735,849.5
Indirect	263,267.7	167,400.2	161,265.7	382,016.8	1,197,425.5	2,195,718.9	6,553,197.9	4,737,824.9	7,780,597.8
Sequestration	--	--	--	68,707.8	102,980.2	--	102,980.0	--	
Unspecified (EZ)	3,107.7	5,433.4	61,265.9	234,112.7	235,606.2	261,546.5	337,981.3	38,666.9	219,473.7
Other									
Direct	4.5	4.5	4.4	4.5	4.4	4.4	4.4	4.4	--
Indirect	0.7	150.4	0.5	0.7	0.7	1.0	1.1	0.9	--
Sequestration	--	--	--	--	--	--	8.6	--	--
Unspecified (EZ)	3.3	--	2.5	490,150.5	1,173,295.7	1,256,894.9	1,192,787.5	1,302,259.2	1,365,015.7
Services and Retail									
Direct	188.9	378.0	567.0	77,514.2	279,796.2	197,735.2	201,092.5	199,531.7	199,607.9
Indirect	284.1	1,259.0	1,494.1	2,985.4	1,036,350.8	51,157.3	30,495.9	53,357.2	50,800.9
Sequestration	--	284.0	851.9	4,825.2	--	7,760.5	--	--	--
Unspecified (EZ)	--	--	1,776.3	435.8	661.7	--	--	--	--

(R) = Revised
Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ
This table excludes data reported as confidential; a negative reduction represents an increase in emissions.

Table B13. Project-Level Reductions by Location of Project, Data Years 1994-2002
(Metric Tons Carbon Dioxide Equivalent)

Geographic Scope and Reduction Type	1994	1995	1996	1997	1998	1999	2000	2001 (R)	2002
Foreign									
Direct	189	378	803	6,169	1,994	49,795	-208,275	-32,443	4,399
Indirect	23,127	48,734	61,562	403,367	59,106	339,397	4,035,671	3,730,587	139,099
Sequestration	356,843	758,944	8,426,200	9,472,230	11,352,314	8,958,450	8,284,743	7,279,384	6,500,172
Unspecified (EZ)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
U.S.									
Direct	62,613,012	88,323,532	89,879,236	94,890,655	147,994,331	155,392,186	211,005,460	247,524,387	264,898,653
Indirect	5,334,255	52,430,183	53,374,336	37,182,173	43,174,169	56,198,475	58,033,701	67,930,507	79,312,328
Sequestration	389,702	431,810	250,391	377,577	1,138,613	665,148	726,373	677,440	796,342
Unspecified (EZ)	4,285,069	6,122,117	5,668,697	8,636,608	19,418,245	12,886,089	12,274,012	14,839,701	17,256,565

Note: (R) = Revised
Note: Form EIA-1604EZ does not allow for reporting on foreign projects; This table excludes data reported as confidential; a negative reduction represents an increase in emissions.
Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ

Table B14. Reporting Entities by Type of Form and Organization, Data Years 1994-2002
(Number of Forms Received)

Type of Reporting Entity	Reports Received									Percent of Total								
	1994	1995	1996	1997	1998	1999	2000	2001(R)	2002	1994	1995	1996	1997	1998	1999	2000	2001(R)	2002
Form EIA-1605																		
Individual or Family	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**2**	**0**	**1.4**	**1.0**	**0.9**	**0.8**	**0.6**	**0.6**	**1.0**	**1.0**	**0.0**
Partnership	**--**	**1**	**1**	**2**	**3**	**2**	**2**	**2**	**1**	**--**	**1.0**	**0.9**	**1.6**	**1.9**	**1.2**	**1.0**	**1.0**	**0.5**
Corporation	**56**	**67**	**74**	**83**	**112**	**114**	**142**	**139**	**134**	**76.7**	**66.3**	**67.9**	**68.0**	**70.4**	**68.7**	**71.4**	**69.5**	**69.4**
Non-Profit	5	4	5	6	5	3	1	2	2	6.8	4.0	4.6	4.9	3.1	1.8	0.5	1.0	1.0
Privately Held	4	9	11	14	35	38	48	56	49	5.5	8.9	10.1	11.5	22.0	22.9	24.1	28.0	25.4
Publicly Traded	41	48	44	49	59	60	67	63	66	56.2	47.5	40.4	40.2	37.1	36.1	33.7	31.5	34.2
Subsidary	6	6	14	14	21	21	27	19	18	8.2	5.9	12.8	11.5	13.2	12.7	13.6	9.5	9.3
Government	**12**	**13**	**11**	**12**	**13**	**17**	**18**	**21**	**18**	**16.4**	**12.9**	**10.1**	**9.8**	**8.2**	**10.2**	**9.0**	**10.5**	**9.3**
Federal	1	1	1	1	2	3	3	3	2	1.4	1.0	0.9	0.8	1.3	1.8	1.5	1.5	1.0
Local	7	8	8	7	8	10	9	12	10	9.6	7.9	7.3	5.7	5.0	6.0	4.5	6.0	5.2
Regional	1	1	--	1	1	1	2	2	2	1.4	1.0	--	0.8	0.6	0.6	1.0	1.0	1.0
State	3	3	2	3	2	3	4	4	4	4.1	3.0	1.8	2.5	1.3	1.8	2.0	2.0	2.1
Joint Venture	**--**	**--**	**--**	**1**	**1**	**2**	**2**	**0**	**1**	**--**	**--**	**--**	**0.8**	**0.6**	**1.2**	**1.0**	**--**	**--**
Limited Liability Company	**--**	**--**	**--**	**--**	**5**	**7**	**11**	**13**	**16**	**--**	**--**	**--**	**--**	**3.1**	**4.2**	**5.5**	**6.5**	**8.3**
Other	**4**	**18**	**21**	**22**	**23**	**22**	**21**	**22**	**22**	**5.5**	**17.8**	**19.3**	**18.0**	**14.5**	**13.3**	**10.6**	**11.0**	**11.4**
Trade Association		**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0.0**	**1.0**	**0.9**	**0.8**	**0.6**	**0.6**	**0.5**	**0.5**	**0.5**
Total Form EIA-1605	**73**	**101**	**109**	**122**	**159**	**166**	**199**	**200**	**193**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Form EIA-1605EZ																		
Individual	1								1	2.9	--	--	--	--	--	--	--	2.9
Company	7	14	17	15	26	19	17	14	14	20.0	34.1	41.5	37.5	54.2	46.3	45.9	43.8	40.0
Government	20	18	17	19	16	14	14	13	14	57.1	43.9	41.5	47.5	33.3	34.1	37.8	40.6	40.0
Non-Profit Organization	4	6	5	4	4	6	5	4	4	11.4	14.6	12.2	10.0	8.3	14.6	13.5	12.5	11.4
Other	3	3	2	2	2	2	1	1	2	8.6	7.3	4.9	5.0	4.2	4.9	2.7	3.1	5.7
Total Form EIA-1605EZ	**35**	**41**	**41**	**40**	**48**	**41**	**37**	**32**	**35**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(R) = Revised
Notes: The total number of corporations is less than the sum of the subtypes for some years, because one entity is listed both as publicly traded and as a subsidary, and because each of the seven Essroc Cement Corp. plants is listed both as privately held and as a subsidary.
Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ

Table B15. Summary of Reports Received by Schedule, Data Years 1994-2002

Form and Year	Number of Reports			
	With Emission Reduction Projects (Schedule II)	WIth Entity-Wide Emissions or Reductions (Schedule III)	With Commitments to Reduce Future Emissions (Schedule IV)	Total
Form EIA-1605				
1994	63	39	44	73
1995	88	50	61	101
1996	99	55	64	109
1997	110	60	72	122
1998	144	76	72	159
1999	148	83	66	166
2000	158	109	70	199
2001(R)	150	109	85	200
2002	137	114	79	193
Form EIA-1605EZ				
1994	35	--	--	35
1995	41	--	--	41
1996	41	--	--	41
1997	40	--	--	40
1998	48	--	--	48
1999	41	--	--	41
2000	37	--	--	37
2001(R)	32	--	--	32
2002	35	--	--	35
Total				
1994	98	39	44	108
1995	129	50	61	142
1996	140	55	64	150
1997	150	60	72	162
1998	192	76	72	207
1999	189	83	66	207
2000	195	109	70	236
2001(R)	182	114	85	232
2002	172	114	79	228

(R) = Revised

Notes Excludes Form EIA-1605 Schedule data for reports classified as confidential

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ

Table B16. Distribution of Projects Reported by Form and Project Type, Data Years 1994-2002

Project Type	Number of Reporters									Number of Projects								
	1994	1995	1996	1997	1998	1999	2000	2001(R)	2002	1994	1995	1996	1997	1998	1999	2000	2001(R)	2002
Form EIA-1605																		
Electricity Generation, Transmission and Distribution	47	62	67	71	69	68	72	72	65	186	248	281	323	369	382	416	373	398
Cogeneration	4	7	8	12	11	10	12	11	12	4	10	11	18	17	17	18	18	20
Energy End Use	51	63	62	67	79	80	77	68	62	160	221	214	249	308	330	382	338	315
Transportation	21	28	31	34	39	39	40	31	32	26	40	47	55	58	62	64	53	60
Waste Treatment and Disposal - Methane	11	16	22	25	36	43	57	55	52	17	23	44	53	90	153	350	391	403
Agriculture (Methane and Nitrous Oxide)	2	2	2	2	3	3	4	3	3	3	3	3	3	4	4	5	3	3
Oil and Natural Gas Systems and Coal Mining (Methane)	7	9	11	13	20	20	20	20	20	8	11	13	15	28	28	28	35	39
Carbon Sequestration	23	44	51	56	57	53	53	51	50	58	175	175	279	321	401	468	369	412
Halogenated Substances	12	17	17	20	23	27	28	27	29	13	21	22	29	35	36	43	39	42
Other Emission Reductions	29	35	36	42	45	46	50	40	45	34	44	51	63	67	71	86	68	82
All Project Types	**63**	**88**	**99**	**110**	**144**	**148**	**158**	**150**	**136**	**509**	**796**	**861**	**1,087**	**1,297**	**1,484**	**1,860**	**1,687**	**1,774**
Did Not Report Projects	8	12	9	12	15	18	41	49	56	--	--	--	--	--	--	--	--	--
Total, All 1605 Reporters	**71**	**100**	**108**	**122**	**159**	**166**	**199**	**199**	**192**	**509**	**796**	**861**	**1,087**	**1,297**	**1,484**	**1,860**	**1,687**	**1,774**
Form EIA-1605EZ																		
Electricity Generation, Transmission and Distribution	22	24	21	21	27	24	25	23	25	35	44	44	46	59	53	55	50	58
Cogeneration	--	1	2	2	2	--	--	--	1	--	1	2	2	2	--	--	--	1
Energy End Use	24	27	23	25	28	20	20	18	20	44	50	53	60	66	56	61	64	97
Transportation	4	5	6	5	6	4	5	6	5	5	8	11	9	14	11	12	13	9
Waste Treatment and Disposal - Methane	1	4	7	6	8	5	4	4	5	10	16	21	28	39	42	43	45	49
Agriculture (Methane and Nitrous Oxide)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil and Natural Gas Systems and Coal Mining (Methane)	1	1	3	2	2	1	1	2	2	5	5	9	4	2	3	1	2	2
Carbon Sequestration	17	18	16	19	16	17	16	12	11	20	24	23	30	34	41	35	14	14
Halogenated Substances	1	1	1	1	--	--	2	2	2	2	1	1	1	--	--	2	3	2
Other Emission Reductions	4	10	11	12	16	11	9	9	10	4	15	15	21	36	31	20	19	21
All Project Types	**34**	**40**	**41**	**40**	**47**	**39**	**36**	**32**	**35**	**125**	**164**	**179**	**201**	**252**	**237**	**229**	**210**	**253**
Did Not Report Projects	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--	--
Total, All 1605EZ Reporters	**34**	**40**	**41**	**40**	**47**	**39**	**36**	**32**	**35**	**125**	**164**	**179**	**201**	**252**	**237**	**229**	**210**	**253**
Totals																		
Electricity Generation, Transmission and Distribution	69	86	88	92	96	92	97	95	90	221	292	325	369	428	435	471	423	456
Cogeneration	4	8	10	14	13	10	12	11	13	4	11	13	20	19	17	18	18	21
Energy End Use	75	90	85	92	107	100	97	86	82	204	271	267	309	374	386	443	402	412
Transportation	25	33	37	39	45	43	45	37	37	31	48	58	64	72	73	76	66	69
Waste Treatment and Disposal - Methane	12	20	29	31	44	48	61	59	57	27	39	65	81	129	195	393	436	452
Agriculture (Methane and Nitrous Oxide)	2	2	2	2	3	3	4	3	3	3	3	3	3	4	4	5	3	3
Oil and Natural Gas Systems and Coal Mining (Methane)	8	10	14	15	22	21	21	22	22	13	16	22	19	30	31	29	37	41
Carbon Sequestration	40	62	67	75	73	70	69	63	61	78	199	198	309	355	442	503	383	426
Halogenated Substances	13	18	18	21	23	27	30	29	31	15	22	23	30	35	36	45	42	44
Other Emission Reductions	33	45	47	54	61	57	59	49	55	38	59	66	84	103	102	106	87	103
All Project Types	**97**	**128**	**140**	**150**	**191**	**187**	**194**	**182**	**171**	**634**	**960**	**1,040**	**1,288**	**1,549**	**1,721**	**2,089**	**1,897**	**2,027**
Did Not Report Projects	8	12	9	12	15	18	41	49	56	--	--	--	--	--	--	--	--	
Total, All Reporters	**108**	**142**	**150**	**162**	**207**	**207**	**236**	**231**	**227**	**634**	**960**	**1,040**	**1,288**	**1,549**	**1,721**	**2,089**	**1,897**	**2,027**

(R) = Revised

Notes: The total numbers of reporters are smaller than the sums of the numbers of reporters for each project type because most reporters provide information on projects of more than one type. Excludes data for reports classified as confidential.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ

Table B17. Affiliation of Reporting Entities with Voluntary Programs, Data Years 1994-2002

Voluntary Program	Number of Reporters								
	1994	1995	1996	1997	1998	1999	2000	2001(R)	2002
AgSTAR		3	1	1					
Compressed Air Challenge						1	2	3	3
Climate Challenge	85	106	100	109	103	91	88	85	79
Cool Communities Program	1	3	2	2	2	1	2	1	1
Coalbed Methane Outreach Program	1	1	2	2	8	8	6	7	6
Climate Wise Recognition Program		7	5	16	35	33	30	17	7
Energy Analysis and Diagnostic Centers		1					1		
Energy Efficiency and Renewable Energy Information and Training									1
Energy Star Building Program	1	1	1	3	3	6	5	6	8
Energy Star Computers Program	2	1	1	1	1	1	2	2	1
Other Energy Star Programs			2	2		2	3	2	7
Energy Star Transformers	2	5	6	6	7	7	7	6	7
Green Lights Program	15	20	20	20	20	18	18	15	15
Landfill Methane Outreach Program	5	6	12	13	23	25	39	38	35
Motor Challenge Program		3	2	4	3	5	4	4	4
Methane Recovery Systems Landfills		3							
Not applicable	2	1	7	7	9	16	14	21	*19*
Natural Gas STAR	3	5	5	4	4	7	7	7	8
Other Federal, state and local programs	9	7	8	7	5	9	10	8	8
Partnerships for Technology Introduction									1
Rebuild America						1	1	1	1
Steam Challenge								1	
Sulfur Hexafluoride Emissions Reduction Partnership						1	6	9	9
United States Initiative on Joint Implementation	3	17	23	29	29	25	33	28	29
Voluntary Aluminum Industrial Partnership	2	2	3	3	3	3	2	2	2
Waste Wise Program	1	4	3	3	3	4	5	5	6

(R) = Revised

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ