



A Brief introduction of the China External Power Supply Project

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About us

- The national authority organization for Energy-Efficiency labeling program in China
- Technical and policy research on the energy efficiency
- Provide technical supports to the Chinese government on energy efficiency issues
- Promote the E-E products in China
- Cooperation with the international organizations, governments and institutes in the energy efficiency field



The power supply market in China

- The saleroom of the AC/DC power supplies in China is about US\$723 millions in China
- About 60% of the total market share
- The increase rate in 2002-2007 will be 12.4%
- About 39.1% of the power supplies are external power supplies due to the low labor-cost and the main suppliers for the mobile-phones, laptops and other movable consume electron products are transferred into China



energy savings & environment effects

- The efficient design can save 15% ~ 20% energy
- The stock of the power supplies is increased rapidly
- The most power plants in China use the fossil fuel



Barriers for the EE power supplies promotion

The energy-efficient power supply has more advantages such as small size, low weight, low operating temperature, high reliability and etc. but it still has some market barriers:

- The purchaser of the power supplies isn't the end-user, needn't pay for the electrical bills and is not the direct beneficiary for energy savings.
- A consumer normally buys a complete set of product rather than an individual power supply
- There has not related information to support the consumer find an energy efficiency power supply,
- The drastically market competing and the reducing profit rate



Project objective

- Develop a mutual accordant test procedure
- Develop a mutual accordant technical specification
- Launch the labeling program in China for EE external AC/DC power supplies
- Increase and enhance the international marketing for Chinese power supplies
- Provide technical support for the development of the national industrial policy for power supplies in China



Products efficiency

- The average efficiency of the linear power supplies is about 15% to 76%, and the average is 49%;

No load power : 0.35~3.8W, Average:1.02W

- The average efficiency of the switch power supplies is about 17% to 88%, and the average is 64%;

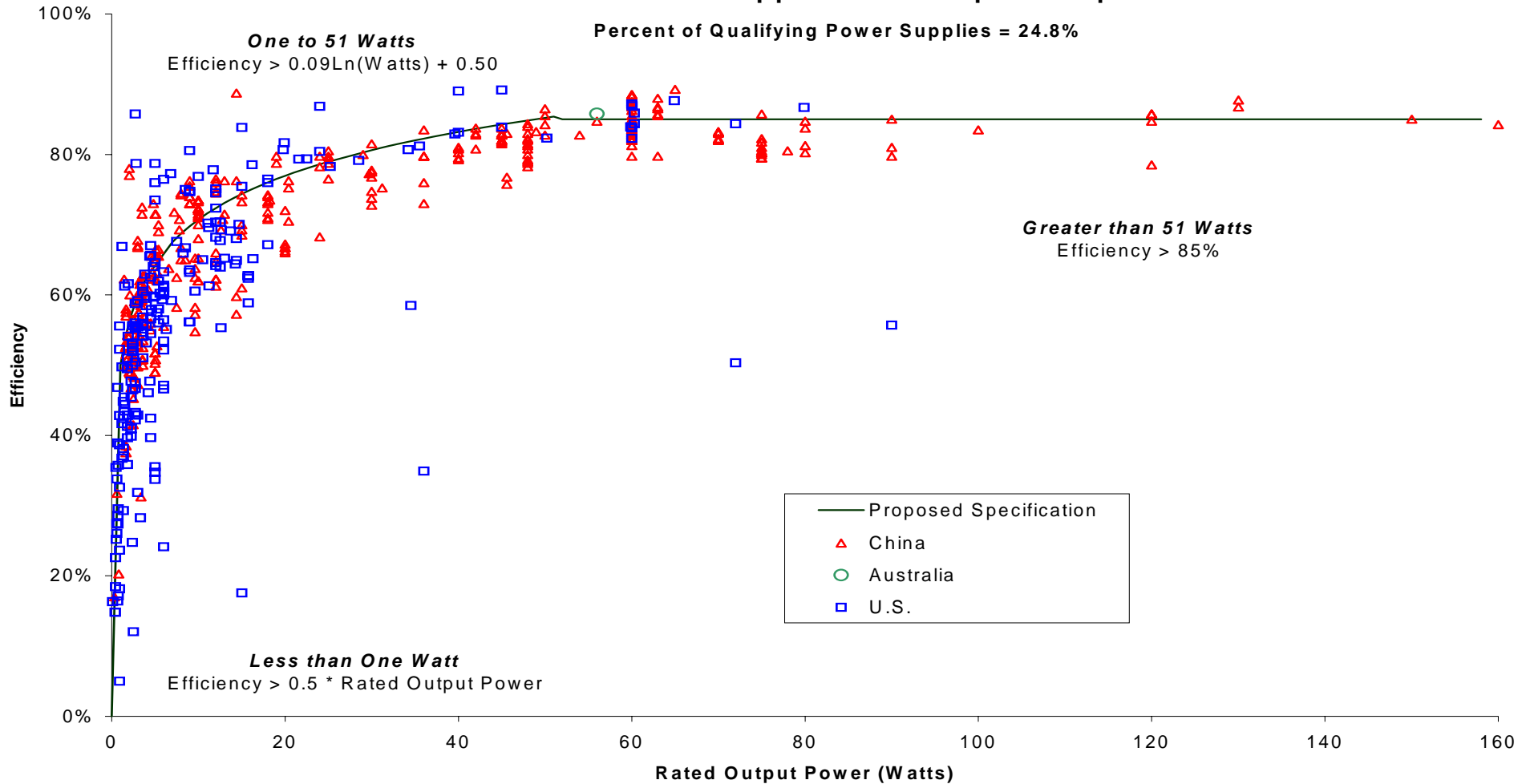
No load power: 0.1~3.8W, Average: 0.92W

Data resource : 500 products measured by CECP in 2003



Average efficiency

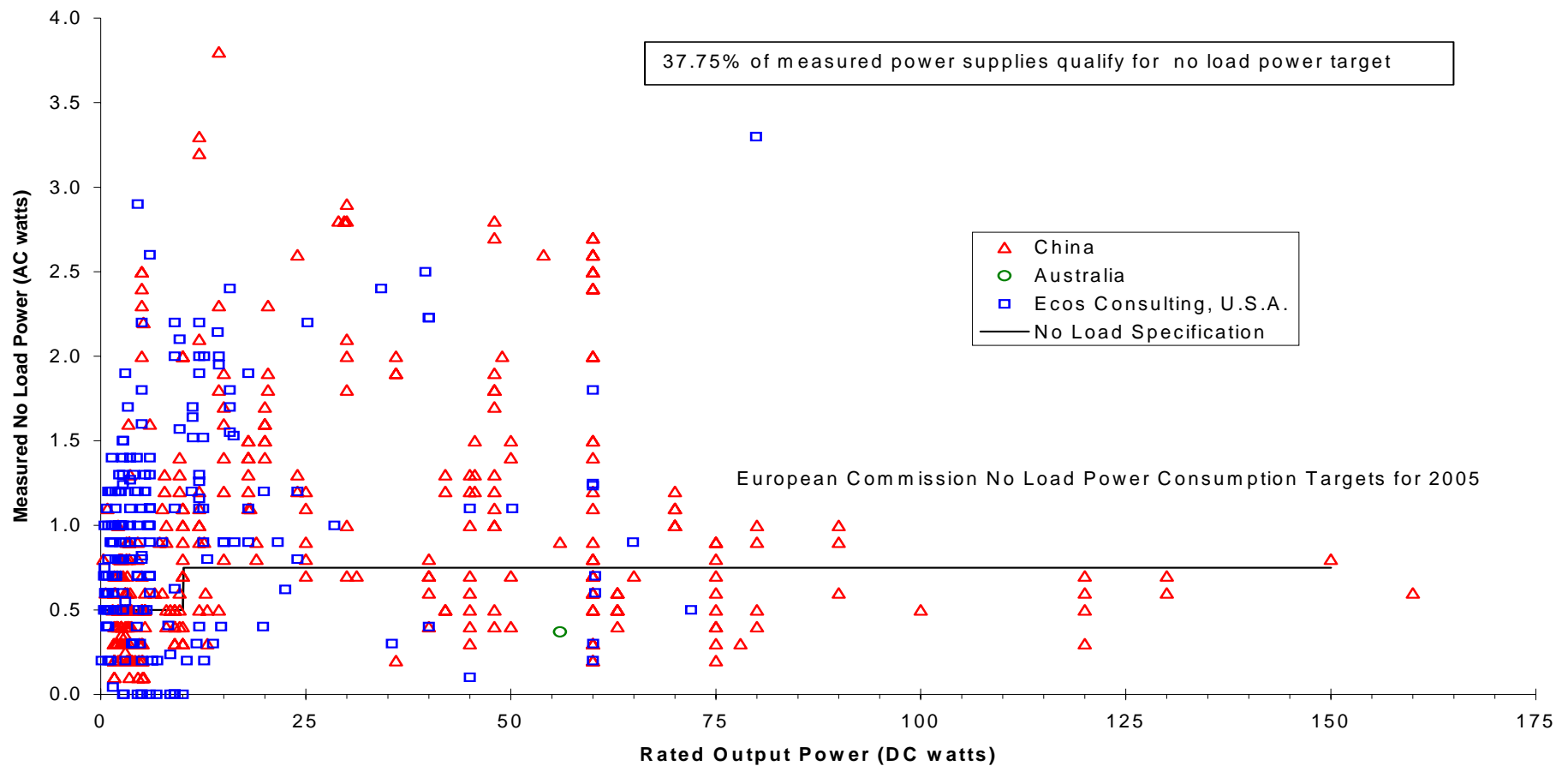
Distribution of External Power Supplies and Proposed Specification





No load power

Distribution of No Load Power by Rated Output Power





CECP technical specification

- The specification is based on the measurement on the 800 products in China, US and Australia
- Been composed by two parts:
 - The average efficiency in the active model
 - The no load power
- The products must meet both the two parts
- The products must be tested according to the procedure provided in the specification



Scopes

- a single voltage external ac-dc power supply
- is designed to convert line voltage ac input into low voltage dc output;
- is able to convert to one dc output voltage at a time;
- is sold with, or intended to be used with, a product that constitutes the primary load;
- is contained in a separate enclosure from the end-use product;



Scopes (continue)

- is connected to the end-use product via a cable, cord or other wiring even when that wiring is permanent;
- does not have batteries or battery packs attached directly to the power supply unit;
- has only two output wires;
- does not have a battery chemistry or type selector switch and indicator light or state of charge meter;
- has wattage ratings less than or equal to 180 watts



Technical level: Average efficiency

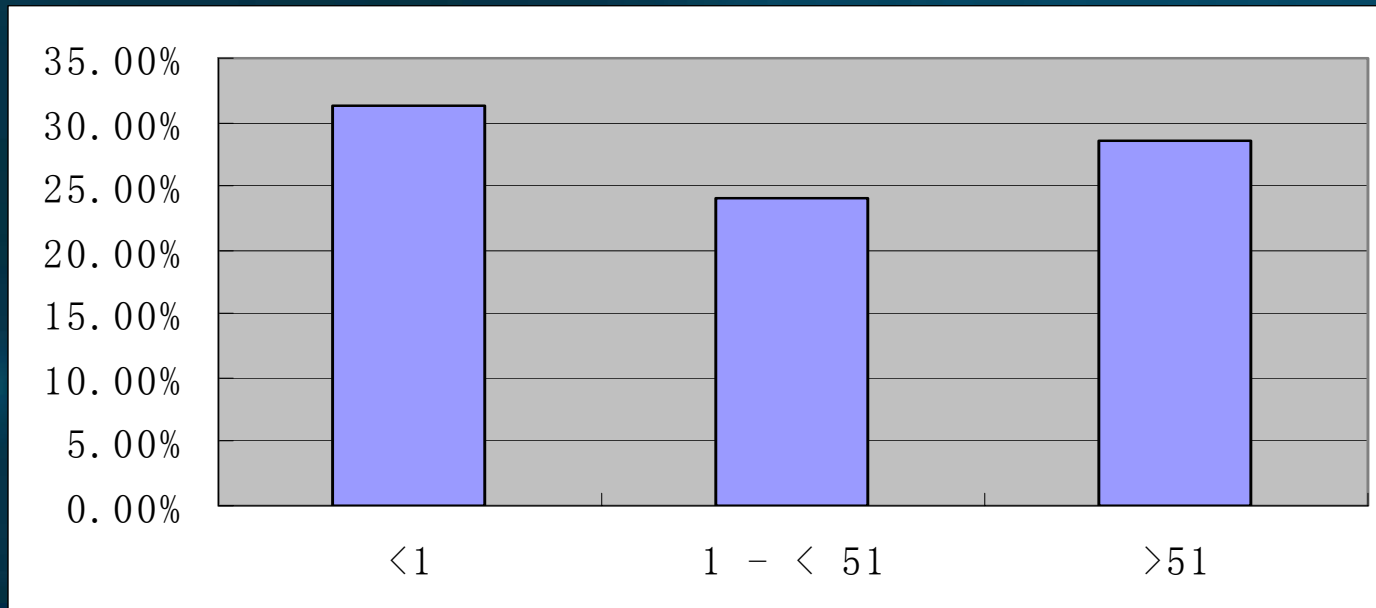
- The average efficiency of the UUT test at the 100%, 75%, 50%, and 25% of the rated current
- Devoted into 3 category by the rated out put power

Rated out put power W	Minimum efficiency Denoted in decimal fraction
$0 < P_o < 1$	$0.5 * P_o$
$1 \leq P_o < 51$	$0.09 * \ln(P_o) + 0.5$
$P_o \geq 51$	0.85



Technical level: Average efficiency

- There are about 31.25% products can meet the requirement among the products less than 1 watt;
- There are about 24.12% products can meet the requirement among the products from 1 watt to 51 watt
- There are about 28.57% products can meet the requirement among the products over 51 watt





Technical level: No load power

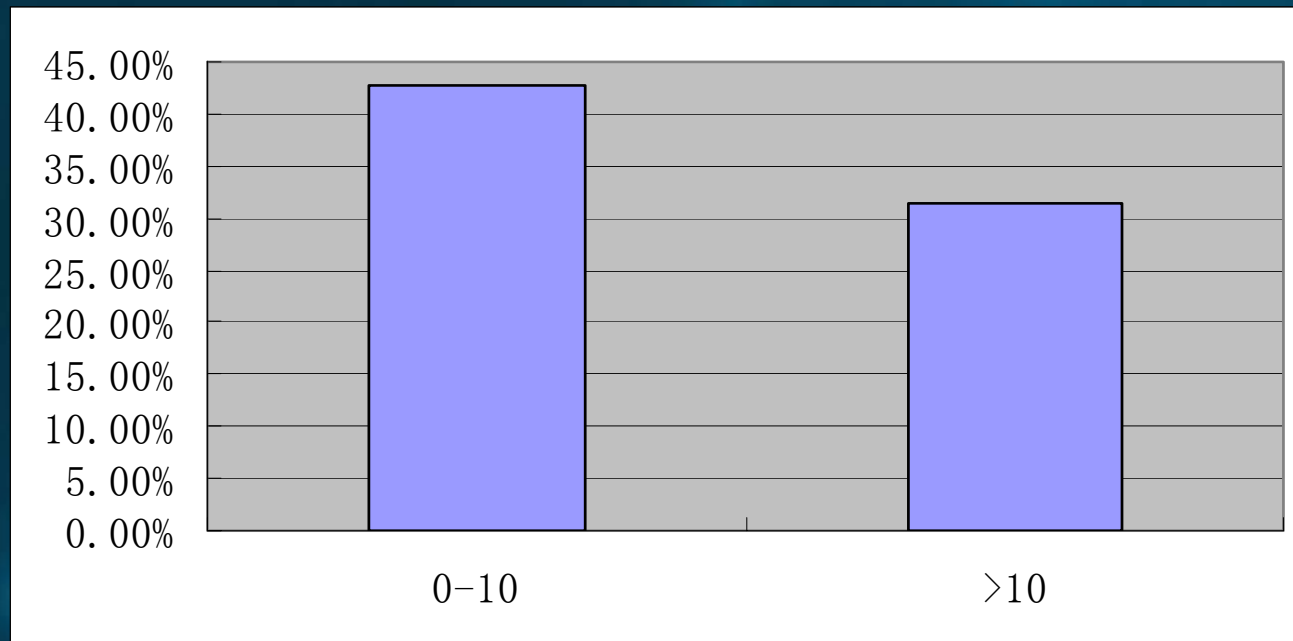
- input of a power supply is connected to an ac source consistent with the power supply's nameplate ac voltage, but the output is not connected to a product or any other load.
- Devoted into 3 category by the rated out put power

Rated out put power W	Maximum no load power W
$0 < P_o \leq 10$	0.5
$10 < P_o < 180$	0.75



Technical level: No load power

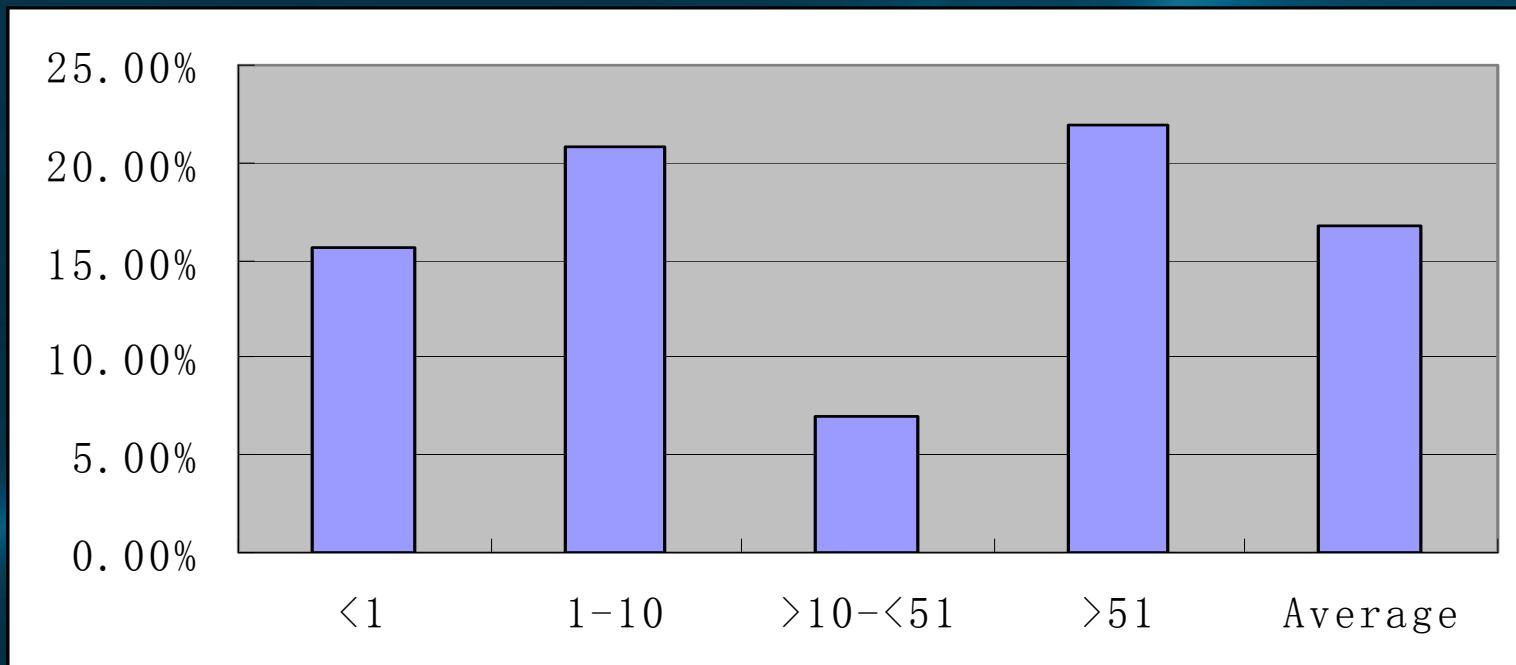
- There are about 42.65% products can meet the requirement among the products less than 10 watt;
- There are about 31.44% products can meet the requirement among the products more than 10 watt;





Technical level: Generally

- The qualified percentage of the products is Different by the out put power category
- About 17.5% can meet both the requirements for efficiency and no load power





International cooperation

- One label application, two labels
- Avoid iterant test, save money and time
- Enhance the international compete



Goals

- Finished the harmonized specification in September
- Launch the program together at the China power supply exhibition in later September
- Provide helps for the Chinese manufacturers apply for the Energy star label



Next steps & our efforts

- Continue the cooperation
- Prepare for launching the labeling program in China
- Technical preparation for the mutual harmonization between CECP and Energy Star label
- Identify the possibility of expanding the cooperation category and field
- Seeking for the cooperation and harmonization with other countries and programs



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Thank you!

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