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Part 2

TO ADAPT TO CHANGING CRUDE OIL MARKET CONDITIONS

OCTOBER 1, 2015.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. UPTON, from the Committee on Energy and Commerce, submitted the following

SUPPLEMENTAL REPORT

[To accompany H.R. 702]

[Including cost estimate of the Congressional Budget Office]

This supplemental report shows the cost estimate of the Congressional Budget Office with respect to the bill (H.R. 702), as reported, which was not included in part 1 of the report submitted by the Committee on Energy and Commerce on September 25, 2015 (H. Rept. 114–267, pt. 1).

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, September 29, 2015.

Hon. FRED UPTON,
Chairman, Committee on Energy and Commerce,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 702, a bill to adapt to changing crude oil market conditions.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contacts are Kathleen Gramp and Jeff LaFave.

Sincerely,

KEITH HALL.

Enclosure.

59–006

H.R. 702—A bill to adapt to changing crude oil market conditions

Summary: H.R. 702 would repeal certain restrictions on the export of domestically produced crude oil and would prohibit any federal official from imposing or enforcing any such restrictions. It also would direct the Secretary of Energy to conduct a study on the purpose, size, and types of oil in the Strategic Petroleum Reserve (SPR).

CBO estimates that enacting this legislation would reduce net direct spending by $1.4 billion over the 2016–2025 period by increasing offsetting receipts from federal oil and gas leases. CBO estimates that requiring the Department of Energy to prepare a report on the SPR would have no significant effect on spending subject to appropriation because that analysis is being done under current law. Pay-as-you-go procedures apply because enacting the legislation would affect direct spending. Enacting the bill would not affect revenues.

CBO estimates that enacting H.R. 702 would not increase net direct spending or on-budget deficits by $5 billion or more in any of the four consecutive 10-year periods beginning in 2026.

H.R. 702 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

Estimated cost to the Federal Government: The estimated budgetary effect of S. 702 is shown in the following table. The budgetary effects of this legislation fall within budget functions 300 (natural resources and the environment), 800 (general government) and 950 (undistributed offsetting receipts).

	By fiscal year, in millions of dollars—											
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2016–2020	2016–2025
CHANGES IN DIRECT SPENDING												
Estimated Budget Authority	*	*	−50	−95	−105	−155	−215	−220	−275	−330	−250	−1,445
Estimated Outlays	*	*	−50	−95	−105	−155	−215	−220	−275	−330	−250	−1,445

Note: * = between −$500,000 and $0.

Basis of estimate: H.R. 702 would amend existing law to allow exports of crude oil without a federal permit, subject to certain terms and conditions. CBO expects that removing the existing permitting restrictions would increase demand for oil produced in the United States, thus raising the prices received by some domestic firms and encouraging additional production. CBO estimates that the increases in domestic prices and production would boost federal receipts from federally owned oil and gas leases, which are calculated as a percentage of the value of the oil produced on the lease (also known as the wellhead price). Based on projected trends in U.S. and international oil markets, CBO estimates that enacting H.R. 702 would increase offsetting receipts from federal leases by $1.4 billion over the 2016–2025 period, net of payments to states (which receive 49 percent of proceeds from most onshore federal oil and gas leases).

Background on current export restrictions

Various laws have imposed conditions on permits for exporting domestically produced crude oil since the 1970s. Those restrictions can affect the price received by producers, which in turn affects income to entities that collect royalties from producers, including the federal government. For many years, those export restrictions had a negligible effect on oil producers because domestic output accounted for a small and declining share of refiners' crude oil supplies. Given that historical shortfall in domestic supplies, many existing refineries were designed to use a mix of imported oil, particularly oil from countries in Latin America that produce a type of crude oil known as "heavy oil."

Domestic oil markets changed abruptly as U.S. oil production increased by about 60 percent over the 2009–2014 period. That increase was almost entirely driven by increased production of "light oil" from onshore oil fields. Accommodating more oil from new locations and with new physical characteristics required operational changes at refineries and investments in new transportation and storage facilities. During that transition period, many producers had to accept prices that were discounted well below global prices in order to sell light oil in the U.S. market.

Such large discounts to global prices could recur in the future if growth in the supply of U.S. oil causes domestic refiners to need economic incentives to process more domestically produced oil, especially light oil. If the amount of added production is relatively small, firms may be able to handle the additional oil using several low-cost options, such as expanding exports to Canada, exchanging oil with Mexico, processing "condensates" (a type of ultra-light oil) for export, or making operational changes that would alter the mix of oils being blended in the refinery. If the volume of new supplies grows larger, however, refiners probably would need to add more costly refinery capacity or would set the price of light oils at levels comparable to those of less expensive alternative supplies. Based on information from several industry, academic, and government experts about the cost and complexity of various processing options, CBO estimates that the additional costs to refiners could range from less than $1 to about $7 per barrel of oil over the next 10 years, depending on the amount and characteristics of the surplus oil.[1] CBO anticipates that refiners would recover those costs by discounting the prices they pay to producers for crude oil.

Additional royalty and bonus bid collections under H.R. 702

Allowing domestic producers of crude oil to export oil without any statutory restrictions would expand the market for U.S. oil and therefore would probably result in higher wellhead prices, which are the basis for royalty payments to the federal government. Any increase in wellhead prices would depend on global buyers' willingness to pay more than the domestically discounted price for the crude oil, net of the logistical and shipping costs of getting domestically produced oil to overseas markets. CBO expects most of the effects on federal royalties (and on bonus bids that firms pay for the right to drill for oil on federal land) would occur after 2016 because

[1] See Energy Information Administration (EIA),*Technical Options for Processing Additional Light Tight Oil Volumes within the United States*, April 2015 http://www.eia.gov/analysis/studies/petroleum/lto/pdf/lightightoil.pdf; EIA, *Implications of Increasing Light Tight Oil Production for U.S. Refining*, May 2015 http://www.eia.gov/analysis/studies/petroleum/morelto/pdf/lightoilprod.pdf; and Center for Energy Studies, Rice University Baker Institute for Public Policy, *To Lift or Not to Lift*, March 2015 http://bakerinstitute.org/research/lift-or-not-lift-us-crude-oil-export-ban-implications-price-and-energy-security/.

of the time needed for lawmakers to enact the legislation and for producers to develop the contractual and physical arrangements for exports. (For the purposes of this estimate, CBO assumes that the bill would be enacted early in fiscal year 2016.)

CBO's estimate of the budgetary effects of eliminating export restrictions reflects the weighted average of various scenarios of future oil production and processing costs. It includes projections of domestic oil production in 2025 that are 15 percent to 50 percent higher under current law than 2014 levels. We expect that additional production of light oil will account for nearly all of that increase in each scenario. Variations in the timing of that growth affect estimates of when domestic pricing discounts would be large enough to create incentives for export activity, resulting in projections of negligible effects in some years and estimated increases in wellhead prices for light oil of up to $6 per barrel, net of export-related expenses, in other years.[2]

Under those conditions and the economic assumptions used in CBO's March 2015 baseline projections, CBO estimates that authorizing exports of domestically produced crude oil without restrictions would increase wellhead prices of light oil by an average of roughly $2.50 per barrel over the 2016–2025 period, on an expected value basis. Although this estimate reflects CBO's best judgment of possible outcomes, actual changes in wellhead prices resulting from such exports would depend on factors that are inherently unpredictable, such as global oil prices, competition from other international suppliers, and administrative actions related to exports that are authorized under current law.

CBO estimates that removing export restrictions would affect the wellhead prices of medium oil differently than light oil because of differences in their physical characteristics and in the market conditions for those types of crudes. Medium oil, particularly medium-sour which is produced in the Gulf of Mexico, is one of the most favored types of oil for U.S. refineries. In addition, CBO anticipates that the domestic refining system will be able to accommodate any growth in the production of this type of oil over the next 10 years, suggesting that price discounts directly tied to this type of oil are unlikely over that period. Thus, CBO expects that any changes in wellhead prices for producers of medium oil, particularly producers in the Outer Continental Shelf (OCS) that resulted from enactment of H.R. 702 would largely depend on the extent to which changes in other domestic and global markets would indirectly affect the price of medium oil. As a result, CBO estimates that any increases in the price of medium oil would be smaller than the increases for light oil.

Additional Receipts from Onshore Oil Production. CBO estimates that higher wellhead prices would increase federal royalties and the amounts producers would pay to acquire leases on federal lands (bonus bids) by about $550 million over the 2016–2025 period. About 70 percent of that amount ($375 million) would come from additional royalties from production that CBO expects would occur under current law. The remaining 30 percent ($175 million) would

[2] For example, if production spikes in the near term, CBO anticipates that export activities would start early in the 10-year period; by contrast, if production grows slowly, the domestic pricing discounts may not be large enough to justify significant export activities until later in that period.

come from royalties and bonus bids associated with new production that we estimate would occur because higher wellhead prices would provide an incentive for firms to produce more oil. On net, after accounting for states' share of those receipts, CBO estimates that removing export restrictions would increase federal receipts from onshore oil and gas production by about $280 million over the 2016–2025 period. How CBO arrived at those estimates is detailed below.

Under current law, CBO projects that oil production on federal lands will average about 145 million barrels a year over the 2016–2025 period.[3] We estimate that, of that amount, about 105 million barrels of light oil and 25 million barrels of medium oil will be produced each year. If export restrictions are lifted, we estimate that the wellhead price for light oil would increase by roughly $2.50, on average, over the next 10 years and that the wellhead price for medium oil would increase by about half that amount. As a result, we estimate that royalties paid by the producers of that oil (equal to 12.5 percent of the wellhead price) would be $375 million higher if export restrictions are removed.

CBO also estimates that, under current law, firms operating on leased federal land in certain western states, particularly in California, will produce about 15 million barrels of heavy oil each year over the 2016–2025 period. We anticipate that most of that oil will be processed in nearby refineries configured to handle heavy oil. Because those refineries cannot economically substitute domestic light oil for heavy oil, we expect that growing supplies of cheaper light oil will not threaten to displace oil produced in the region. As a result, western refiners will not have the leverage to demand price discounts from local producers, unlike refiners in other parts of the country that process lighter oils. Thus, CBO expects that, if export restrictions were lifted, any change in the price paid to producers of heavy oil would be negligible.

CBO also expects that, if export restrictions are removed, higher wellhead prices would provide an incentive for firms in most parts of the country to produce more oil. In particular, we expect that firms would increase oil production in three states—North Dakota, Texas, and Oklahoma—that contain the most light oil and accounted for about 90 percent of the increase in total U.S. oil production over the 2009–2014 period. Because federal lands make up only two percent of the total land area in those states, we expect that nearly all new production in those states would occur on nonfederal lands.

CBO estimates that in certain western states containing significant amounts of federal land and parts of North Dakota there would be a small increase in production (2 million barrels per year) on such land if export restrictions were lifted.[4] Using CBO's March 2015 forecast of oil prices and the increase expected from lifting restrictions on oil exports, we estimate that royalties from new production on federal lands would total $150 million over the next 10 years. We also estimate that bonus bids would increase by 1 percent ($25 million) over that period. In total, we estimate that new onshore production driven by higher prices would increase offset-

[3] Firms produced 137 million barrels of oil on federal lands in 2014.
[4] That amount is equal to about 2 percent of federal production in those states in 2014.

ting receipts by $175 million over the 2016–2025 period; 49 percent of that amount would go to states.

Additional Royalties from Offshore Oil Production. Removing restrictions on exports of crude oil might affect federal royalties from offshore leases differently than onshore leases because of differences in the physical and economic characteristics of the crude oil produced in those areas. On balance, CBO estimates that enacting the bill would increase royalties collected from leases in the OCS by about $1.2 billion over the 2016–2025. That estimate is based on CBO's March, 2015 baseline projections for oil production on the OCS, excluding the portion of production on which royalties are not paid under the terms of the 1995 Royalty Relief Act (about 20 percent in 2014). CBO estimates that royalty-bearing production will average about 550 million barrels a year over the 2016–2025 period, with a royalty rate of about 15 percent. Crude oil production from the OCS totaled roughly 530 million barrels in calendar year 2014, or about 17 percent of total domestic production.

Most of that estimated increase in OCS royalties reflects the indirect effects of higher prices for light oil on the prices paid for the medium-sour crude oil produced from offshore leases. Although prices for different types of domestic crude oil generally move in tandem, several factors suggest that OCS wellhead prices will not change as much as prices for light oil. For example, prices for OCS oil have usually been a few dollars lower than the key benchmark prices for light oil, and CBO expects that those price differences will return once oil markets adjust to the new levels of supply. In addition, CBO anticipates that competition in the domestic oil market may affect the extent to which the pricing discounts needed to accommodate new supplies of light oil will be borne by producers of other types of oil. CBO accounts for this uncertainty by projecting that OCS wellhead prices would rise by about half as much as prices for light oil if H.R. 702 was enacted.

Global demand for medium-sour oil could create incentives for exporting OCS oil, but CBO estimates that such transactions probably would have no significant effect on the wellhead prices for OCS production because of uncertainty regarding market conditions. According to industry reports, foreign refiners may benefit from importing medium-sour crudes from the United States because of the premiums they currently pay when importing oil from other suppliers.[5] The net benefit to U.S. producers would depend on whether other international suppliers would respond by lowering the prices they charge in order to maintain market share, which is difficult to predict.

Finally, CBO estimates that the changes in wellhead prices would have no significant effect on OCS production over the 2016–2025 period and would have a negligible effect on bonus or rental payments for new OCS leases. Given the high cost of acquiring and developing oil resources in the deep waters of the OCS, CBO anticipates that investment decisions will be affected more by firms' expectations for global oil prices than by the proportionately small changes in prices that we project would result from enacting this

[5] See Wood Mackenzie,*Implications of Changing U.S. Crude Oil Export Policy,* Presentation by Harold York at the Annual Meeting of the American Fuel and Petrochemical Manufacturers, March 2015 http://crudecoalition.org/app/uploads/2015/06/Implications-Changing_US_Crude_Oil_Export_Policy-Wood-McKenzie.pdf.

legislation. Similarly, CBO estimates that implementing the legislation would have a negligible effect on proceeds from the heavy oil produced from the OCS.

Pay As You Go considerations: The Statutory Pay-As-You-Go Act of 2010 establishes budget-reporting and enforcement procedures for legislation affecting direct spending or revenues. The net changes in outlays that are subject to those pay-as-you-go procedures are shown in the following table.

CBO ESTIMATE OF PAY-AS-YOU-GO EFFECTS FOR H.R. 702, AS REPORTED BY THE HOUSE COMMITTEE ON ENERGY AND COMMERCE ON SEPTEMBER 25, 2015

	By fiscal year, in millions of dollars—												
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2015–2025	2015–2025
NET INCREASE OR DECREASE (−) IN THE DEFICIT													
Estimated Budget Authority	0	0	0	−50	−95	−105	−155	−215	−220	−275	−330	−250	−1,445
Estimated Outlays	0	0	0	−50	−95	−105	−155	−215	−220	−275	−330	−250	−1,445

Increase in long-term direct spending: CBO estimates that enacting the legislation would not increase net direct spending by $5 billion or more in any of the four consecutive 10-year periods beginning in 2026.

Intergovernmental and private-sector impact: H.R. 702 contains no intergovernmental or private-sector mandates as defined in UMRA and would impose no costs on state, local, or tribal governments.

Estimate prepared by: Federal costs: Kathleen Gramp, Jeff LaFave, and Ron Gecan; Impact on state, local, and tribal governments: Jon Sperl; Impact on the private sector: Amy Petz.

Estimate approved by: Theresa Gullo, Assistant Director for Budget Analysis.

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