Congressional Budget Office
Cost Estimate

June 21, 2019

At a Glance

H.R. 1146, Arctic Cultural and Coastal Plain Protection Act

As ordered reported by the House Committee on Natural Resources on May 1, 2019

By Fiscal Year, Millions of Dollars	2019	2019-2024	2019-2029
Direct Spending (Outlays)	**0**	**600**	**905**
Revenues	**0**	**0**	**0**
Deficit Effect	**0**	**600**	**905**
Spending Subject to Appropriation (Outlays)	**0**	**0**	**0**

Pay-as-you-go procedures apply?	**Yes**	**Mandate Effects**	
Increases on-budget deficits in any of the four consecutive 10-year periods beginning in 2030?	**> $5 billion**	Contains intergovernmental mandate?	**No**
		Contains private-sector mandate?	**No**

The bill would

- Repeal a program to lease federal lands in the Arctic National Wildlife Refuge (ANWR) in Alaska for oil and gas exploration and production

Estimated budgetary effects would primarily stem from

- Forgone government income resulting from repealing the program

Areas of significant uncertainty include

- The magnitude of future government income from leasing in ANWR
- Long-term oil prices, resource potential in ANWR, the cost of oil production, and alternative investment opportunities of potential lessees

Detailed estimate begins on the next page.

See also *CBO's Cost Estimates Explained*, www.cbo.gov/publication/54437;
How CBO Prepares Cost Estimates, www.cbo.gov/publication/53519; and *Glossary*, www.cbo.gov/publication/42904.

Bill Summary

Current law directs the Department of the Interior (DOI) to implement an oil and gas leasing program for federal lands located within the coastal plain of the Arctic National Wildlife Refuge in Alaska. H.R. 1146 would repeal that program. CBO estimates that enacting the legislation would result in the collection of fewer offsetting receipts, but also would lower payments to Alaska, which would have the effect of increasing net direct spending by $905 million over the 2019-2029 period.

Estimated Federal Cost

The estimated budgetary effect of H.R. 1146 is shown in Table 1. The costs of the legislation fall within budget function 300 (natural resources and environment) and 800 (general government).

Table 1.
Estimated Budgetary Effects of H.R. 1146

	By Fiscal Year, Millions of Dollars												
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2019-2024	2019-2029
	Increases in Direct Spending												
Estimated Budget Authority	0	0	0	600	*	*	301	1	1	1	1	600	905
Estimated Outlays	0	0	0	600	*	*	301	1	1	1	1	600	905

* = between zero and $500,000.

Basis of Estimate

For this estimate, CBO assumes that the legislation will be enacted near the end of 2019.

Background

A provision of Public Law 115-97, the major tax legislation enacted in 2017, directs DOI to implement an oil and gas leasing program for 1.5 million acres of federal lands within ANWR's coastal plain. DOI is required to hold two sealed-bid-auction lease sales by 2025 and to offer at least 400,000 acres for lease each time. The department is reviewing public comments and finalizing an environmental impact statement before holding the first sale.

For each lease awarded, the lessee will pay the federal government a bonus bid (the amount that a company is willing to pay to acquire a lease), annual rent to retain the lease, and royalties based on the value of any oil or gas produced. (Those payments are recorded in the budget as offsetting receipts, or reductions in direct spending.) The current royalty rate for oil and gas production in ANWR is 16.67 percent. Alaska will receive one-half of the gross receipts from the leasing program.

Direct Spending

CBO estimates that enacting H.R. 1146 would increase net direct spending by $905 million over the 2019-2029 period.

Bonus Bids. The U.S. Geological Survey (USGS) estimates that federal land in ANWR contains an average of 7.7 billion barrels of technically recoverable oil (oil that can be extracted using current methods).[1] Using information from USGS, the state of Alaska, and representatives from the oil and gas industry, CBO estimates that, on average, the cost to produce oil in ANWR will range from $45 to $55 per barrel (in current dollars). The portion of the technically recoverable oil that will be extracted will depend on future market prices. CBO does not expect that natural gas production from ANWR will be economically viable in the next several years.

Based on the results of lease sales in other areas perceived to contain large oil resources, CBO expects that oil companies will actively compete for leases in ANWR because of its strategic as well as its resource value. In addition, CBO expects that land in the western portion of ANWR—which contains the highest estimated concentration of resources—will be most attractive to bidders and will be leased in the first sale. Accordingly, we expect that the first sale will produce the highest bonus bids. Using information from major federal lease sales in the lower 48 states and onshore and offshore Alaska, where average bids ranged from roughly $200 to $20,000 per acre (adjusted for inflation to 2019 dollars), CBO estimates that gross receipts from bonus bids for ANWR leases will total $1.8 billion over the 2019-2029 period In developing that estimate, CBO considered a range of projected oil prices, oil production volume, and total acreage leased. For example, if bidders were to lease all 800,000 acres that DOI is required to offer at a minimum, that estimate implies an average bonus bid of $2,250 per acre.

Because half of those receipts will be paid to Alaska, CBO estimates that the net federal receipts from bonus bids will total $900 million over the 2019-2029 period. (Thus, CBO estimates that enacting H.R. 1146 would increase net direct spending by $900 million over the 2019-2029 period.

Other Receipts. Federal oil and gas lessees pay rent annually to the government to hold a lease until production begins. Based on the annual minimum rental rate in current law of $3 per acre in the National Petroleum Reserve in Alaska, CBO estimates that under

1. USGS estimates that federal lands in ANWR contain between 4.3 billion and 11.8 billion barrels of technically recoverable oil, and that there is a 50 percent chance that those lands contain at least 7.7 billion barrels of oil. See U.S. Geological Survey, *Arctic National Wildlife Refuge, 1002 Area, Petroleum Assessment, 1998, Including Economic Analysis* (April 2001), https://pubs.usgs.gov/fs/fs-0028-01.

H.R. 1146, the government would forgo rental payments totaling about $5 million over the 2019-2029 period.

CBO also estimates that the government will receive royalty payments on oil produced from ANWR leases. However, using information from the Energy Information Administration on the typical period that would be necessary to drill exploratory wells, complete production plans, and build infrastructure to produce and transport any oil from ANWR, CBO estimates that no significant royalty payments will be made until after 2029, once production begins.

Uncertainty

The amount the government will collect from bonus bids for ANWR leases is uncertain and could be higher or lower than CBO estimates. Potential bidders could rely on assumptions that differ from CBO's, including projections of long-term prices for oil, production costs, the area's resource potential, and alternative investment opportunities. In particular, oil companies may evaluate and compare potential investments in ANWR with other domestic and overseas investment options. The factors that affect companies' investment decisions result in a wide range of possible bonus bids.

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 Table 2.

Table 2.
CBO's Estimate of Pay-As-You-Go Effects of H.R. 1146

	By Fiscal Year, Millions of Dollars												
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2019-2024	2019-2029
	Net Increase in the Deficit												
Statutory Pay-As-You-Go Effect	0	0	0	600	0	0	301	1	1	1	1	600	905

Increase in Long-Term Deficits

CBO estimates that enacting the bill would increase on-budget deficits by more than $5 billion in at least one of the four consecutive 10-year periods beginning in 2030. After considering a range of price and production scenarios, CBO estimates that under current law, net royalties will exceed $500 million annually over the years of peak oil production in ANWR. Under H.R. 1146, the federal government would forgo those royalties.

Mandates: None

Estimate Prepared By

Federal Costs: Janani Shankaran

Mandates: Jon Sperl

Estimate Reviewed By

Kim P. Cawley
Chief, Natural and Physical Resources Cost Estimates Unit

H. Samuel Papenfuss
Deputy Assistant Director for Budget Analysis

Theresa Gullo
Assistant Director for Budget Analysis