

ESTIMATING THE ECONOMIC AND FISCAL IMPACTS OF OIL AND GAS ACTIVITIES ON THE OUTER CONTINENTAL SHELF

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Overview

The U.S. Department of the Interior's (DOI's) Bureau of Ocean Energy Management (BOEM) is responsible for managing energy and mineral resources on the Outer Continental Shelf (OCS) of the United States. In the fulfillment of this responsibility, prior to decisions as to whether to auction rights to Federal offshore oil and gas resources, BOEM estimates the regional economic impacts of producing those resources. In addition, BOEM annually assesses the economic and fiscal contributions of offshore oil and gas activities for the previous year, including the spatial distribution of these contributions across different jurisdictions, and publishes this information in DOI's annual economic report. This information is of immense interest to policymakers and other stakeholders, as it provides important data for decision makers, as well as insights into the importance of OCS oil and gas development to the national economy and to the economy of specific regions within the U.S. In addition, these analyses show how OCS oil and gas activity contributes to the revenues of individual states and to federal revenues.

Estimation of the economic and fiscal impacts of OCS oil and gas activity is complicated by several important characteristics of the offshore oil and gas industry. In particular, the production of offshore oil and gas in a given year reflects a multitude of activities, such as seismic surveying and the drilling of exploration wells. The relative mix of these and other OCS oil and gas activities varies from year to year, with each activity having its own unique economic and fiscal impacts. Furthermore, the spatial distribution of the industry's economic and fiscal impacts is complicated by heterogeneity in the extent to which different OCS activities rely on local labor and firms located in close proximity to offshore production sites versus labor and firms from other regions. Finally, annual expenditures by the offshore oil and gas industry and profits earned by the industry, both of which are important to understanding the industry's economic and fiscal impacts, are highly variable from year to year.

While BOEM's current framework for estimating the economic and fiscal impacts of OCS oil and gas activities has provided valuable information to policymakers and the public, the Bureau is currently redesigning its approach to provide more robust and detailed estimates of these impacts, particularly with respect to the above challenges. This redesign will culminate in the development of BOEM's Cumulative Impacts Model (CIM), which the Bureau will use to assess the economic and fiscal impacts of recent OCS oil and gas activities (e.g., during the most recent fiscal year) as well as of activities over a 15-year forecast period.

Methodology

The Cumulative Impacts Model is designed to support detailed analysis of the economic and fiscal impacts associated with (1) investment and operational expenditures by the OCS oil and gas industry; (2) profits earned by the industry; and (3) royalties, rents, and bonus bids collected on OCS leases. For forward-looking analyses, the model will estimate both industry expenditures and profits endogenously based on a sales forecast entered by the user and other exogenously specified variables. The model's allocation of industry expenditures across different OCS oil and gas activities will reflect BOEM's internal projections for these activities, while the spatial distribution of expenditures for each activity will reflect a combination of activity-specific data compiled from various external data sources and more general spatial distribution data from IMPLAN.

The model's estimation of economic and fiscal impacts associated with industry profits will expand significantly upon BOEM's current approach for estimating these impacts. Specifically, in addition to capturing tax collections by the Federal government (like BOEM's current approach), the CIM will estimate corporate income tax revenues and taxes on dividends at the state level. The model's estimation of these revenues will rely on data compiled from the IRS (for the effective corporate tax rate at the federal level), the Bureau of Economic Analysis (to derive state-level corporate profit estimates), and state revenue agencies (for state-level collections of corporate tax revenue). To estimate revenues from dividend taxes, the CIM will rely on recent tax filing data reported by the IRS as well as data reported by the Tax Foundation on dividend taxes levied by individual states.

While the CIM's estimates of OCS royalties, rents, and bonus bids will be reported directly by the model user, the model will include detailed mechanisms for allocating these revenues to the U.S. Treasury, individual states, or coastal political subdivisions, consistent with the revenue-sharing provisions in Section 8(g) of the 1978 OCS Lands Act Amendments and in the 2006 Gulf of Mexico Energy Security Act (GOMESA). To develop these allocations, the model will project the distribution between 8(g) and non8(g) production, as well as the distribution between production on GOMESA and non-GOMESA leases.

To estimate the economic impacts associated with industry expenditures, the expenditure of taxes on profits, or the expenditure of direct OCS revenues, the CIM will apply multipliers obtained from IMPLAN. These multipliers will be specified for 23 economic impact areas previously delineated by BOEM in the Gulf of Mexico region, five "rest-of-state" areas for the states in the Gulf region, and the rest of the U.S.

Results

As the CIM is still under development, we do not have results to share at this time.

Conclusion

The Cumulative Impacts Model will represent the most thorough and systematic accounting of the economic and fiscal impacts of oil and gas activity on the Outer Continental Shelf. As such, the model may inform the policymaking process related to BOEM's Five Year leasing program and individual lease sales, as well as provide the public with information on the extent to which oil and gas development on the OCS contributes to national and regional economies.