

# Federal Fossil Fuel Disbursements to States

## State policy and practice in allocating federal revenue



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### About Headwaters Economics

Headwaters Economics is an independent, nonprofit research group whose mission is to improve community development and land management decisions. <https://headwaterseconomics.org/>

### Authors

Kristin Smith, Ph.D. | Headwaters Economics

Mark Haggerty | Headwaters Economics

Jackson Rose | SunRose Consulting LLC

### Contact

Kelly Pohl | Headwaters Economics | 406.599.7841 | [kelly@headwaterseconomics.org](mailto:kelly@headwaterseconomics.org)



P.O. Box 7059 | Bozeman, MT 59771

<https://headwaterseconomics.org>

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## Executive Summary

State and local government dependence on fossil fuel revenue creates uncertainty and instability due to volatile global markets, shifting industry practices, and policy changes. Governments that benefit from fossil fuel extraction often receive revenue from a variety of sources, including from leases and production on private, state, and federal lands. This report focuses on revenue disbursements that states receive from fossil fuel leases and production on federal lands and waters.

Since 2003, the Office of Natural Resources Revenue has disbursed an average of \$2 billion per year from the federal leasing program to state and local governments. Disbursements for FY 2020 were \$1.74 billion, a lower amount in part due to the impacts of the COVID-19 pandemic.

Notably, fossil fuel production on federal lands and waters is a relatively small share of total U.S. production (11% of natural gas and 22% of crude oil in 2019). Yet, some state and local governments receive substantial disbursements from the federal leasing program, heightening their risk of dependence on this revenue source.

Among our key findings:

### **Federal fossil fuel disbursements are volatile and unevenly distributed.**

Federal fossil fuel disbursements to state and local governments varied, on average, by 16% from one year to the next over the past decade. This volatility poses challenges to long-term planning and budgeting. Disbursements also varied widely between places. Two states, New Mexico and Wyoming, received 72% of all federal disbursements over the last decade. In FY 2020, New Mexico received \$702.6 million from federal fossil fuel disbursements (3.28% of the state's total expenditures), and Wyoming received \$438.5 million (9.3% of total state expenditures). In all other states, federal fossil fuel disbursements for FY 2020 represented less than 1% of total state expenditures.

### **States that spend volatile revenue on operating expenses heighten their risk of dependence.**

This report examines how states allocate their federal fossil fuel disbursements across three broad categories: (1) state expenditures, (2) local distributions, and (3) savings. In FY 2020, states allocated 80% of their federal fossil fuel disbursements to state expenditures (\$1.4 billion). When states rely on volatile revenue for day-to-day expenses, they risk deepening their dependence on that revenue stream. This risk is exacerbated when the state also has a narrow tax structure and/or limited savings.

### **Dependence can also be local.**

At the local level, governments that receive direct federal disbursements may become dependent on federal fossil fuel disbursements even when the state is not. About 9% (\$166 million in FY 2020) of total federal disbursements are directly passed through to local governments. However, complex budgeting processes, data gaps, and the unique context of different geographies make it challenging to identify which local governments are most dependent on the federal leasing program. More research is needed to assess local dependence and to create a strategy to strategically coordinate state and federal assistance.

### **State and federal solutions are needed to reduce dependence.**

State and federal reforms are needed to ensure that future minerals development, renewable energy, and other projects on federal lands and waters create long-term wealth for state and local governments as opposed to dependence. States can stabilize volatile revenue streams by diversifying their tax structure and investing money in short- and long-term savings, including budget stabilization funds and permanent funds. In FY 2020, states allocated only 11% (\$195 million) of federal fossil fuel disbursements to savings. This likely overestimates the actual amount saved as some states regularly draw on their savings to pay for annual operating costs. At the federal level, reforms to the federal leasing program are needed to stabilize disbursements, such as through a national endowment fund.

# 1. Introduction

On average, state and local governments receive \$2 billion per year from the leasing and production of minerals and energy on federal lands and waters. Revenue sharing agreements ensure that private development of the nation's federal mineral reserves generates public benefits. However, federal disbursements are volatile and may decline due to changes in the market, industry, and/or policy. State and local governments that are dependent on federal disbursements may face fiscal hardships if this revenue source declines.

The majority of state and local government disbursements from the federal leasing program are from fossil fuels. Of note, the federal leasing program is just one way that state and local governments capture revenue from fossil fuel production. For example, states that host oil and gas production typically generate revenue from a variety of sources, including: (1) state taxes on production, (2) local property taxes, (3) revenue from oil and gas leasing and production on state lands, and (4) disbursements from oil and gas leasing and production on federal lands. Although there is significant variability from state to state, federal disbursements are often a small portion of the total revenue generated from oil and gas production on private, state, and federal lands and waters.<sup>1</sup>

Nonetheless, certain state and local budgets – as well as individual agency budgets or funds within a state – may be highly dependent on federal fossil fuel disbursements. The extent to which state and local budgets are reliant on the federal leasing program, as well as how states manage federal disbursements, was not previously known.

Headwaters Economics conducted a policy and budget analysis to investigate the extent of fiscal dependence on federal fossil fuel disbursements. Dependence occurs when state and/or local budgets become overly reliant on direct and volatile revenue from fossil fuel production, resulting in budget shortfalls and service cuts when fossil fuel revenue declines.

Dependence, however, is complex. Risk factors contributing to dependence include: (1) the share of fossil fuel revenue in relation to total budgets; (2) state and local government revenue diversity and tax structures; and (3) how governments choose to spend, save, and invest money. States can reduce the risk of dependence by diversifying their economy and tax structures and choosing to save and invest fossil fuel revenue to maximize long-term returns.

In this report, we:

- Document the federal fossil fuel leasing disbursements states receive and how they spend it;
- Describe risks and dependencies created by current revenue management strategies; and
- Offer solutions to stabilize revenue from volatile and uncertain sources.

## Key definitions

**Allocations:** State-level decisions on how to spend disbursements from the federal leasing program. This analysis categorized allocations into:

1. State expenditures
2. Local distributions
3. Savings

**Disbursements:** Portion of total revenue generated from federal mineral and energy leasing and production that is transferred to states, local governments, and other beneficiaries.

**Fiscal year (FY):** The federal fiscal year begins October 1 and ends September 30.

**Federal fossil fuel disbursements:** Revenue generated and distributed from the leasing and production of coal, oil, and natural gas on federal lands and waters (onshore and offshore production).

**Offshore revenue:** Under Section 8(g) of the Outer Continental Shelf Land Act and the Gulf of Mexico Energy Security Act (GOMESA) of 2006, coastal states receive a share of offshore oil and gas revenue.

**Onshore revenue:** About half (49%) of revenue from onshore leases on federal land is returned to the state government where the lease is located. Per provisions of the Alaskan Statehood Act, Alaska gets a 90% share of the revenues from certain leases.

**Office of Natural Resources Revenue (ONRR):** The federal agency within the Department of Interior that manages revenue and disbursements tied to federally owned offshore and onshore natural resources.

This report focuses on federal disbursements generated from fossil fuel leasing and production, including both onshore and offshore production of coal, oil, and natural gas. It includes 14 states that receive significant federal fossil fuel disbursements from onshore and offshore leasing and production. Unless noted, this report does not include federal minerals revenue disbursed to tribal governments. Appendix A includes a summary of the study's methods, and the report's companion data download<sup>2</sup> includes complete data tables and detailed descriptions of methods and data sources.

## 2. Following the money: From federal leases to state budgets

In this section, we trace the flow of revenue from federal fossil fuel development beginning with production on federal lands and waters to federal disbursements to state budget allocations.

Federal fossil fuel development includes onshore and offshore coal, oil, and natural gas production. The majority of revenue from the federal leasing program comes from oil and natural gas leases. However, oil and natural gas production on federal lands and waters (as opposed to production from private and state lands) is a relatively small portion of the entire industry. In FY 2019, approximately 11% of total natural gas and 22% of crude oil produced in the United States were from federal lands and waters.<sup>3,4,5</sup>

Figure 1 provides an overview of how revenue is generated from federal fossil fuel leasing and production, disbursed by the Department of Interior, and then allocated by state governments.

### How federal leasing and production revenue is generated

The Department of Interior leases the right to extract fossil fuels and other resources on public lands and waters to private interests. Companies pay the federal government for leasing and developing minerals on federal lands and waters in four ways:

- (1) **Bonuses:** the amount the highest bidder paid for a lease through the competitive bidding process;
- (2) **Rents:** paid to secure permits and maintain a lease before production begins;
- (3) **Royalties:** a percent of oil and gas sales paid to the federal government once production begins; and
- (4) **Fees and other:** inspection fees, administrative fees, civil penalties, and other revenues.

Leases are awarded through a competitive bidding process. The winning bidder pays a “bonus” to secure the lease. If no bids are received, the land can be offered through the noncompetitive leasing process, which does not generate a bonus payment.

Once a lease is procured, companies must apply for development permits and abide by regulations governing extraction and reclamation on federal lands and waters. They pay rent to maintain leases and then royalties once production begins. Administrative and inspection fees are also charged to companies.

In addition, operating companies post reclamation bonds to ensure clean-up costs are paid and not shifted to taxpayers. Bonds are returned to the operator once production ends and the site's clean-up meets federal standards.

Figure 1. Supply chain of revenue from federal fossil fuel leasing and production.

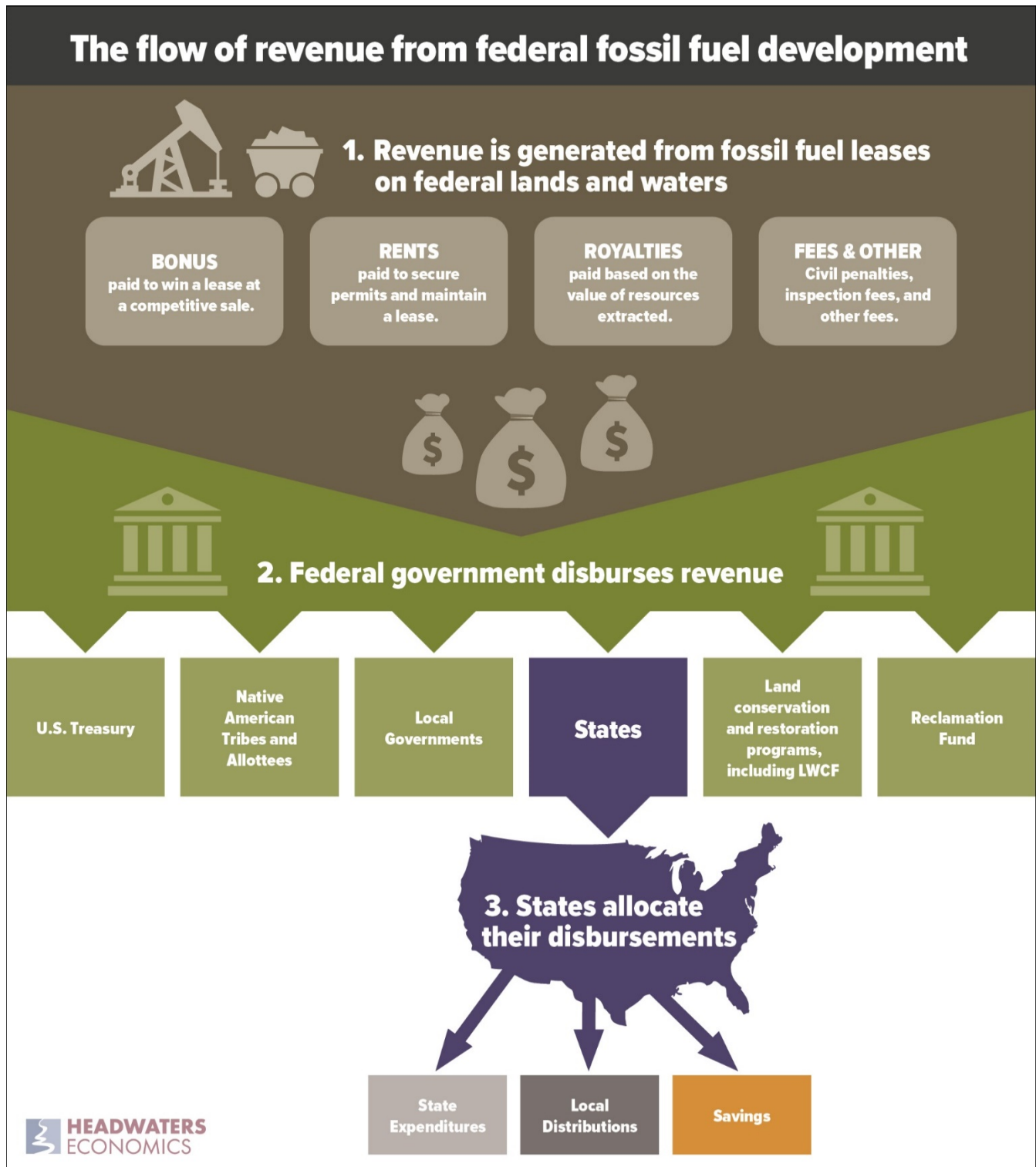


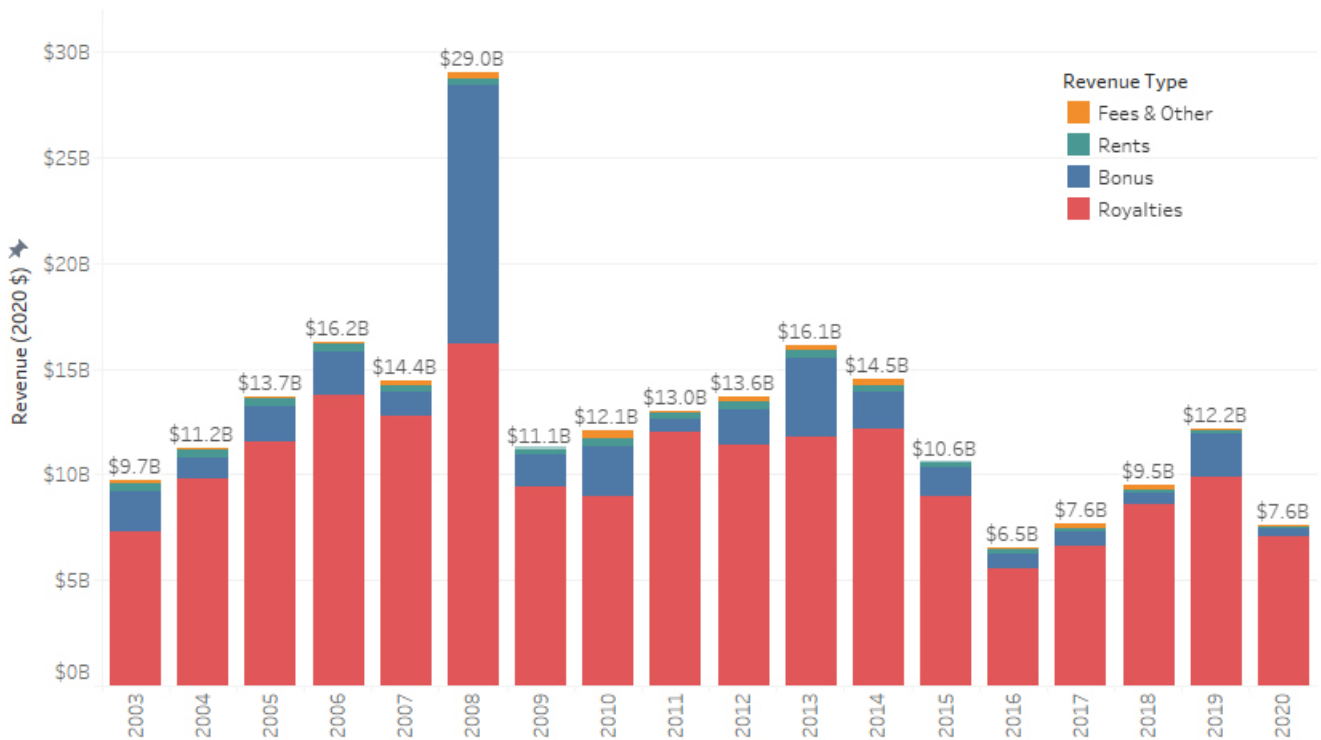
Figure 2 provides an overview of total revenue collected from all states from federal mineral and energy leasing and production, FY 2003 to FY 2020. Royalty payments are routinely the largest contributor to total revenue from the federal leasing program. In FY 2020 royalty payments totaled \$7.1 billion or roughly 93% of total revenue generated.

Figure 2 also demonstrates the inherent volatility of federal mineral revenue—total revenue varies from a high of \$29 billion in FY 2008 to a low of \$6.5 billion in FY 2016. The significant increase in bonus revenue in 2008 can be traced to the GOMESA legislation, passed in 2006, that opened 8.3 million acres for offshore oil and gas development. The first lease sales for the newly accessible area were held in 2007 and 2008 and resulted in a \$9 billion dollar surge in bonus revenues collected.<sup>6</sup>

In FY 2020, total federal mineral leasing and production revenue (including tribal revenue) totaled \$7.6 billion. Of this amount, 93% (\$7.0 billion) was from onshore and offshore oil and natural gas production and 5% (\$377.7 million) was from coal production.

As will be detailed in the next section, only a portion of total revenue generated from the federal leasing program is disbursed to state and local governments.

Figure 2: Federal mineral leasing and production revenue by type, FY 2003 to 2020.<sup>7</sup>



Source: U.S. Office of Natural Resources Revenue, Department of Interior. (2021). In some cases, Fees & Other includes a negative value because companies have several years to adjust production data and amounts owed.





## How the revenue is disbursed by the federal government

Revenue generated from leasing and production of federal minerals is disbursed to multiple beneficiaries, including the U.S. Treasury, tribal governments, state and local governments, the Reclamation Fund, the Land and Water Conservation Fund, the Historic Preservation Fund, and others. Figure 3 illustrates how much federal mineral revenue—including revenue from fossil fuel, non-energy minerals, and renewable energy—is disbursed across federal agencies, federal funds, and state, local, and tribal governments. In FY 2020, the U.S. Treasury was the largest single recipient (\$2.9 billion, or 36% of the total disbursement).

This report focuses on disbursements to state and local governments. State and local government budgets benefit from federal fossil fuel leases and production through revenue-sharing policies. The Mineral Leasing Act of 1920 established the first direct federal minerals disbursements to state and local governments and still guides federal leasing today. Disbursements are permanently authorized and do not need to be annually authorized by Congress.

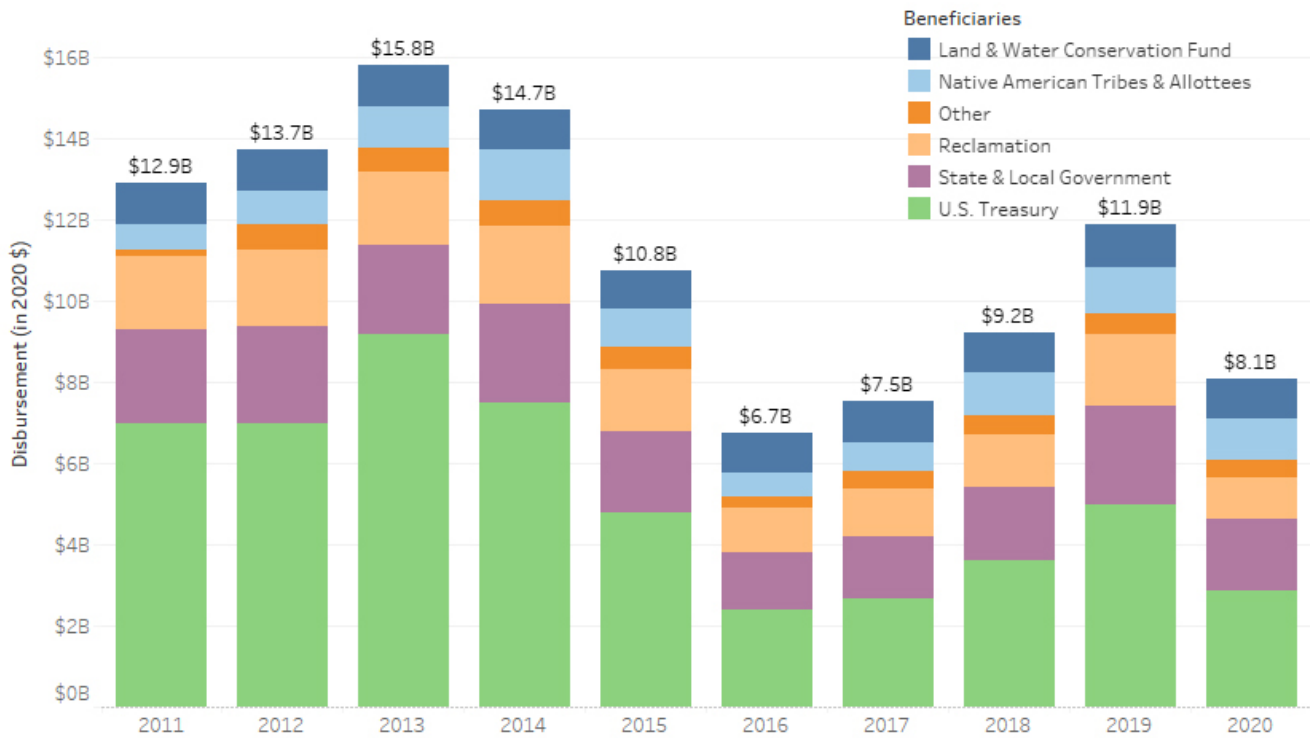
State and local governments receive revenue from federal oil and gas leasing and production through a variety of mechanisms, including:<sup>8</sup>

- **Onshore leases.** About half (49%) of revenue from onshore leases on federal land is returned to the state government where the lease is located. Per provisions of the Alaskan Statehood Act, Alaska gets a 90% share of the revenues from certain leases. Disbursements to state and local governments from onshore leases were \$1.4 billion in FY 2020, or about 18% of total disbursements. States that received at least \$1,000,000 in disbursements in 2020 from onshore revenue include New Mexico, Wyoming, North Dakota, Colorado, Utah, California, Montana, Alaska, Nevada, Oklahoma, Idaho, Louisiana, Texas, and Missouri.<sup>9</sup>
- **Offshore leases.**
  - **8(g) leases.** Section 8(g) of the Outer Continental Shelf Land Act establishes revenue-sharing between states and federal offshore leases within three miles of the state's seaward boundary. 27% of revenue from offshore leases is returned to the state. 8(g) disbursements were \$5.8 million in FY 2020, less than 0.1% of the federal leasing program's total disbursements.<sup>10</sup> States that receive 8(g) disbursements include Alabama, Alaska, California, Louisiana, Massachusetts, Mississippi, Rhode Island, and Texas.
  - **GOMESA royalties.** A portion of royalties from deep-water offshore development in the Gulf of Mexico is shared directly with coastal state and local governments through the GOMESA program. GOMESA is currently in Phase II disbursements which began in FY 2018. GOMESA disbursements were \$353 million in FY 2020, or about 4% of the federal leasing program's total disbursements. Four states receive GOMESA royalties: Alabama, Louisiana, Mississippi, and Texas. GOMESA also makes direct payments to some counties, totaling more than \$70 million in FY 2020.

On average over the last decade, state and local governments collectively received \$2 billion per year from federal disbursements (Figure 4). Disbursements ranged from a high of \$2.4 billion in 2019 and 2014 to a low of \$1.4 billion in 2016. In FY 2020, state and local governments received \$1.74 billion (about 22% of the total disbursement), lower in part due to the impacts of the COVID-19 pandemic on oil demand and prices.

Federal disbursements to state and local governments are volatile. On average, disbursements varied by 16% year-to-year.

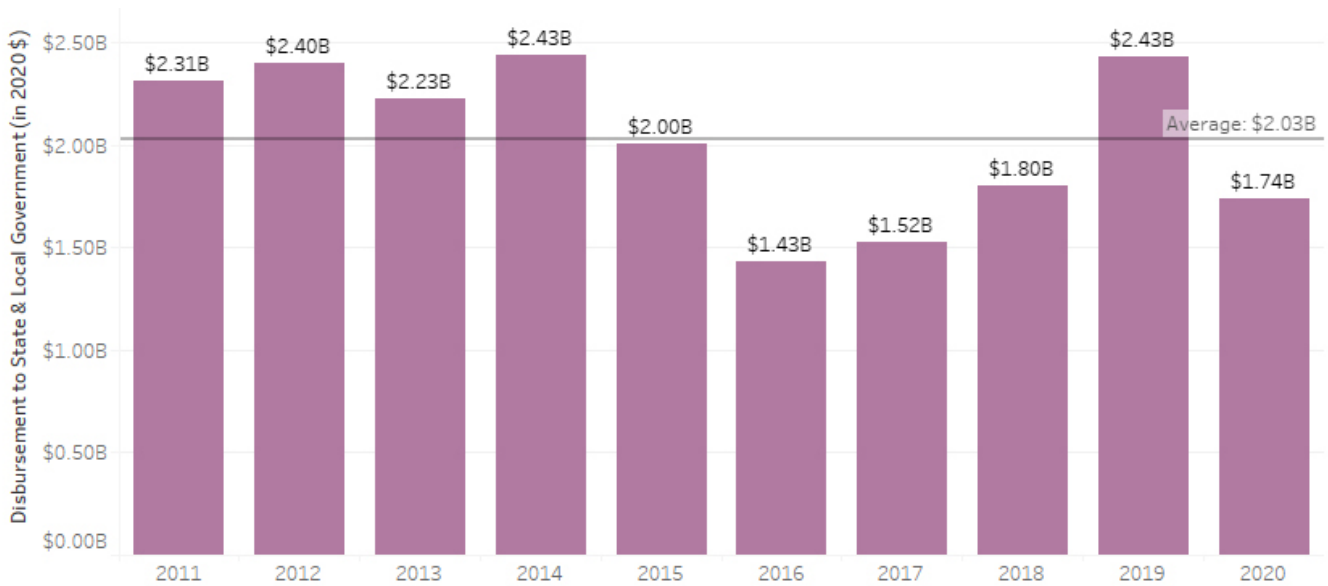
Figure 3: Disbursements of federal mineral leasing and production revenue to all beneficiaries, FY 2011 to 2020.<sup>11</sup>



Source: U.S. Office of Natural Resources Revenue, Department of Interior. (2021).



Figure 4: Disbursements of federal mineral leasing and production revenue to States and Local Governments, FY 2011 to 2020.<sup>12</sup>



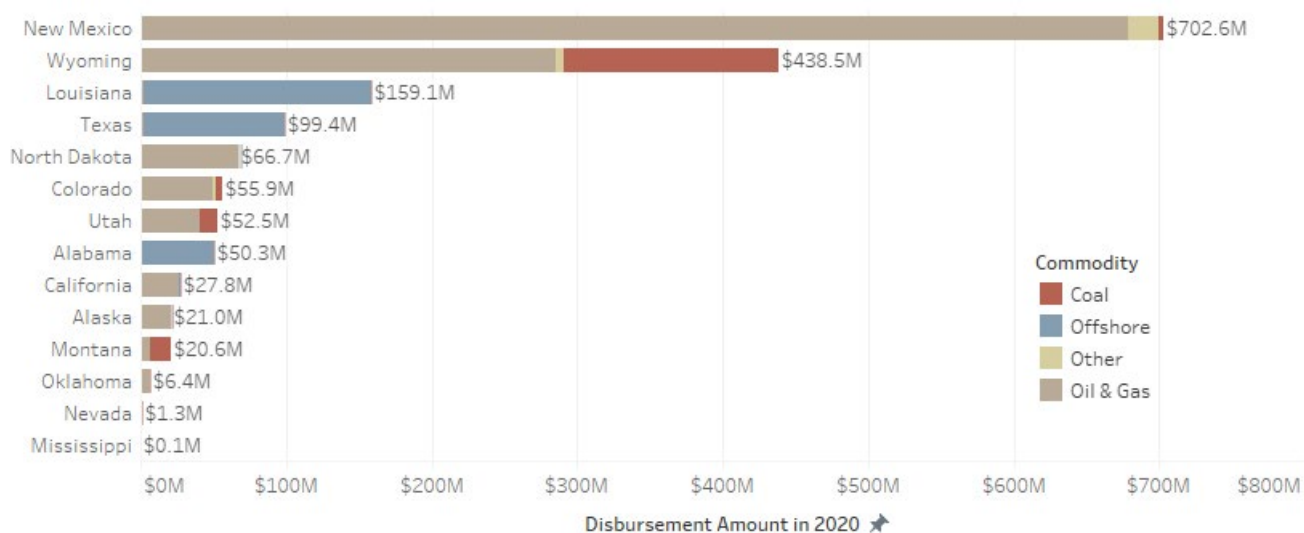
Source: U.S. Office of Natural Resources Revenue, Department of Interior. (2021).



Two states, New Mexico and Wyoming, receive the majority of federal fossil fuel disbursements. In the last decade, they received 72% of the federal leasing program’s total disbursements to state and local governments. In FY 2020 New Mexico received \$702.6 million, and Wyoming received \$438.5 million in fossil fuel disbursements (Figure 5). For comparison, in FY 2020 federal fossil fuel disbursements represented 9.33% of total state expenditures in Wyoming and 3.28% in New Mexico. In all other states, federal fossil fuel disbursements were less than 1% of total state expenditures (Table 1).<sup>13</sup>

**New Mexico and Wyoming received 72% of federal disbursements in the last decade.**

Figure 5: Disbursement of federal fossil fuel revenue to states, FY 2020<sup>14</sup>



Source: U.S. Office of Natural Resources Revenue, Department of Interior. (2021). Note that federal disbursement totals will not match state allocations due to differences in fiscal year reporting. In some cases, states had negative values because companies have several years to adjust production data and amounts owed.



Table 1. Federal fossil fuel disbursements compared to state expenditures, FY 2020.

State	FY 2020 federal fossil fuel disbursements <sup>a</sup>	FY 2020 total state expenditures <sup>b</sup>	Federal fossil fuel disbursement as a share of expenditures
Alabama	50,290,254	28,600,000,000	0.18%
Alaska	21,037,876	12,600,000,000	0.17%
California	27,835,645	337,700,000,000	0.01%
Colorado	55,926,777	40,900,000,000	0.14%
Louisiana	159,088,552	37,200,000,000	0.43%
Mississippi	143,235	21,700,000,000	0.00%
Montana	20,578,610	8,300,000,000	0.25%
Nevada	1,265,699	16,000,000,000	0.01%
New Mexico	702,574,364	21,400,000,000	3.28%
North Dakota	66,717,834	6,900,000,000	0.97%
Oklahoma	6,412,906	24,800,000,000	0.03%
Texas	99,356,657	129,500,000,000	0.08%
Utah	52,451,729	19,000,000,000	0.28%
Wyoming	438,525,177	4,700,000,000	9.33%

a. U.S. Office of Natural Resources Revenue, Department of Interior. (2021).<sup>12</sup>

b. Urban Institute. State and Local Finance Initiative. (2021).<sup>13</sup>

## States typically spend, rather than save, federal fossil fuel disbursements

States determine how to spend federal fossil fuel disbursements within broad federal guidelines. For onshore lease revenue, priority is given to areas socially or economically impacted by mineral development, and allocations can be used for planning, construction and maintenance of public facilities, and provision of public services.<sup>15</sup> The GOMESA program prioritizes coastal protection and restoration.<sup>16</sup>

This analysis classified state allocations into three categories according to how the funds were intended to be used, including:

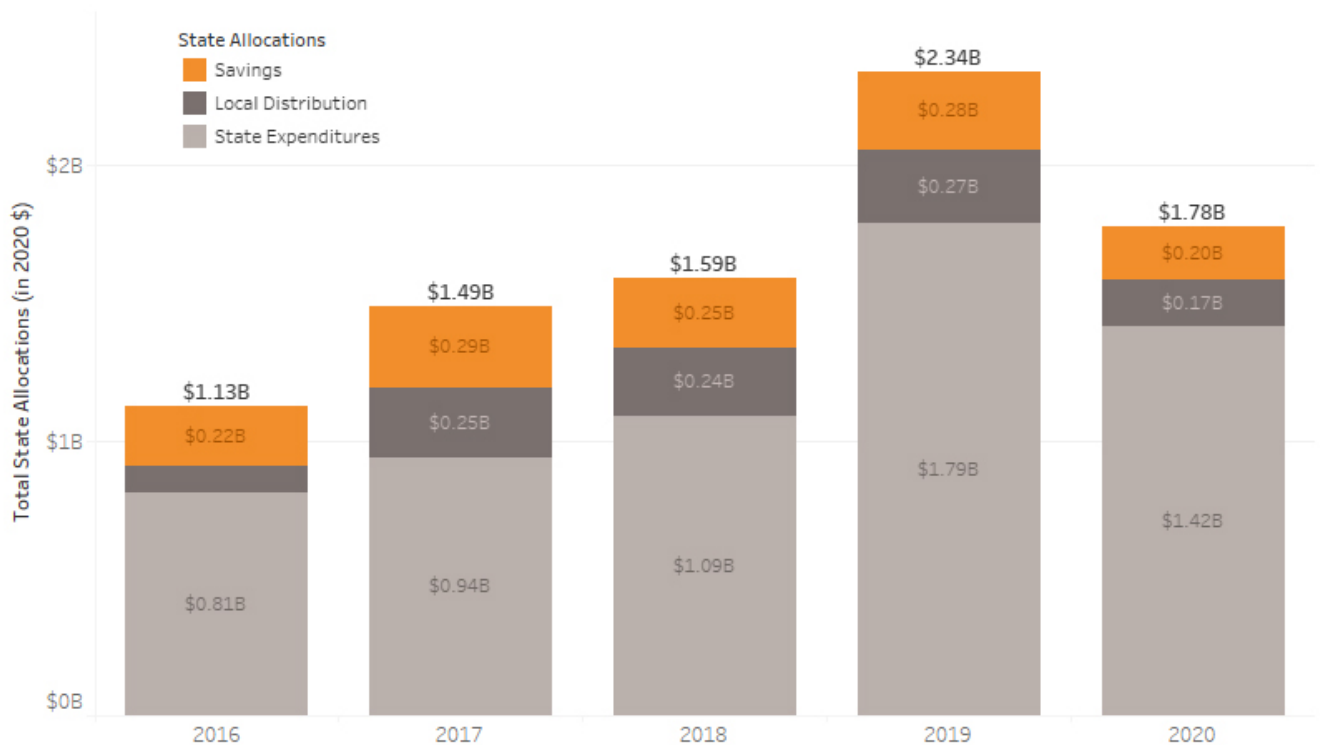
- (1) **State expenditures** – Allocations to fund state services, infrastructure, and operations. This category includes GOMESA funds since states have discretion on which projects to fund. *Note:* While some of these allocations may ultimately fund local government or school district budgets, state spending allocations are not mandated by policy to be spent on local governments.
- (2) **Local distributions** – Allocations made directly to local governments, including allocations to grants and impact funds for local governments and/or school districts.
- (3) **Savings** – Allocations made with the explicit goal of saving and investing funds for short- and long-term purposes, including budget reserves, savings accounts, revolving loan funds, and permanent funds.

Figure 6 demonstrates how states allocated their federal disbursements from FY 2016 to FY 2020. In general, states allocated most federal fossil fuel disbursements to state expenditures (\$1.4 billion or 80% of total disbursements in FY 2020). About 9% (\$166 million in FY 2020) of disbursements go to local governments, either through GOMESA payments, as direct pass-throughs from states to local governments, or as impact grants. Finally, a portion of federal disbursements are allocated to budget reserve funds and permanent savings (\$195 million in FY 2020, 11% of total disbursements).

Only 11% of federal fossil fuel disbursements are allocated to savings.

When allocations are viewed collectively (such as in Figure 6), New Mexico and Wyoming skew the data due to their outsized portion of fossil fuel disbursements. Table 2 offers a more nuanced overview of how states employ different strategies for allocating federal fossil fuel disbursements. For instance, Wyoming saves significant portions of its federal disbursements in budget reserve funds (although Wyoming regularly uses its budget reserve funds to offset its General Fund). North Dakota allocates its entire federal disbursement to the counties that host federal leases. New Mexico allocates its federal disbursement to the general fund and earmarks this funding for public K-12 education.

Figure 6. State allocation of federal fossil fuel disbursements to savings, local government distributions, and state expenditures.<sup>17</sup>



See companion data download for details on methodology and sources. Numbers are adjusted for inflation and shown in 2020 dollars. State allocations will not match federal disbursement totals due to differences in fiscal year reporting. Data prior to FY 2018 is missing from several states.



Table 2. Allocations of federal fossil fuel disbursements by state, FY 2020.

State	Savings	Local Distribution	State Expenditures	Total
Alabama	\$79,736	\$33,390	\$26,287,410	\$26,400,536
Alaska	\$2,334,006	\$16,400,000	\$2,310,782	\$21,044,788
California			\$27,782,813	\$27,782,813
Colorado	\$6,595,321	\$18,297,767	\$30,318,561	\$55,211,649
Louisiana	\$205,332		\$118,928,409	\$119,133,741
Mississippi			\$20,850,000	\$20,850,000
Montana		\$6,731,150	\$26,924,593	\$33,655,743
Nevada			\$5,586,187	\$5,586,187
New Mexico			\$817,308,502	\$817,308,502
North Dakota		\$53,588,312		\$53,588,312
Oklahoma			\$3,800,131	\$3,800,131
Texas	\$2,085,302	\$1,922,286	\$61,979,374	\$65,986,962
Utah		\$33,128,323	\$4,375,535	\$37,503,858
Wyoming	\$184,286,008	\$36,210,795	\$268,566,809	\$489,063,612
<b>Total</b>	<b>\$195,585,705</b>	<b>\$166,312,023</b>	<b>\$1,415,019,106</b>	<b>\$1,776,916,834</b>
<b>Pct. of Total</b>	<b>11%</b>	<b>9%</b>	<b>80%</b>	

See companion data download<sup>2</sup> for details on methodology and sources.

## State expenditures

States allocated the majority of federal fossil fuel disbursements to state expenditures. Collectively, the largest source of spending for federal fossil fuel disbursements was on annual school budgets. New Mexico earmarks all of its federal disbursements for education, though it is deposited into the state's General Fund. Wyoming also allocates a segment of its federal revenue to public schools and higher education budgets.

States that incorporate disbursements into operating budgets are more likely to be reliant on disbursements to pay for ongoing government operations and services. This heightens the risk of dependence. Decreases in federal fossil fuel disbursements may create budget shortfalls, making it challenging to pay for critical government functions.

Allocating revenue to capital budgets can help limit the risk of dependence. However, using volatile revenue for capital expenses carries its own risks. States may invest in infrastructure and capital projects when revenue is flush only to find it hard to pay for long-term operations and maintenance costs when federal fossil fuel disbursements decline in the future.<sup>18</sup>

## Local government distributions

Portions of federal disbursements are paid directly to local governments. The GOMESA program includes payments that are made directly to coastal counties and parishes in Alabama, Louisiana, Mississippi, and Texas. In addition, several states—Alabama, Alaska, Colorado, Montana, North Dakota, Texas, Utah, and Wyoming—require that a portion of the state's disbursements be transferred to local governments. These local disbursements vary by state. Montana shares 25% of disbursements directly with the county in which the federal leases are located. Colorado's Department of Local Affairs allocates 40% of the state's federal disbursements through a community impact grant program and through direct distributions based on several factors, including the location of federal leases and the oil and natural gas workforce. North Dakota distributes 100% of the state's federal lease disbursements to local governments in host counties.

Local distributions can provide critical revenue for local governments and—for those that host fossil fuel production—can help address community impacts associated with fossil fuel production. However, they also heighten the risk that local governments will become dependent on federal fossil fuel disbursements, particularly for rural counties with economies and tax structures that are specialized to the fossil fuel industry.

## Savings

Approximately 11% of federal disbursements are set aside in short- and long-term savings. This analysis considered “savings” to include permanent funds, revolving loan funds, and budget reserves.

Permanent funds are fiscal tools designed to stabilize revenue in the long term by investing revenue and generating returns. States are able to spend revenue from the interest generated by the funds while the principal is preserved (and ideally expanded). Relatively few dollars are invested by states in permanent funds—less than 1% of total disbursements.

Revolving loan funds are self-replenishing funds that can be used to finance infrastructure and capital improvement projects. An initial investment of capital is needed to start a revolving loan fund. This capital is then loaned to private and/or public entities, often through low-interest loans with long repayment periods. As loans are repaid, with interest, the revolving loan fund sustains itself and enables new loans.

Budget reserves are also referred to as budget stabilization funds or rainy-day funds. They can be used to manage unexpected, short-term budget shortfalls. While this analysis included budget reserves in the “savings” category, policies governing the use of budget reserves often lack clarity and budget reserves are frequently used to offset general fund needs. Thus, this analysis likely overestimates “savings.”

## 3. State fiscal policies and budget decisions influence the risk of dependence

State and local governments may be vulnerable to declines in federal fossil fuel disbursements caused by market volatility, shifts in industry, and/or policy changes. Importantly, the level of vulnerability is related to factors that include and go beyond the amount of federal fossil fuel revenue received.

Higher risk of dependence on federal fossil fuel disbursements results from:

- Relative proportion of federal fossil fuel disbursements compared to budgets;
- Lack of revenue diversity;
- Reliance on volatile revenue for essential services and infrastructure; and
- Limited or no savings.

Whether or not a state is vulnerable to changes in revenue received from the federal fossil fuel program depends not just on the relative size of disbursements, but also on the state's broader fiscal approach. No state has created a perfect solution to fully insulate budgets from volatility, but lessons can still be learned from current strategies.

This section provides examples from Wyoming and New Mexico to illustrate the costs and benefits of different revenue management approaches. Together these two states received 72% of all federal disbursements in the last decade. However, the states have managed their fossil fuel revenue differently.

Vulnerability to losses in federal fossil fuel disbursements depends on revenue management strategies and broader fiscal health.

## States that receive greater federal fossil fuel disbursements have higher risk

While New Mexico receives more federal fossil fuel revenue than Wyoming, the amount received by Wyoming is larger in proportion to the state's overall budget. For example, when compared to total expenditures, federal fossil fuel disbursements are 9.33% in Wyoming and 3.28% in New Mexico<sup>19</sup> (Table 1). In every other state, federal fossil fuel disbursements represent less than 1% of total state expenditures in FY 2020. This makes Wyoming more vulnerable to volatility and increases the need to diversify its budget from fossil fuel revenue.

## Narrow tax structures create risk

Diverse revenue streams are critical for managing volatility. Yet, when budgets are flush with revenue from fossil fuel production, states may feel incentivized to cut other revenue streams, such as property taxes or income taxes. This results in a narrowing of the tax structure, heightening the risk of dependence.

Wyoming is an example of a state with a revenue structure that has become increasingly specialized to fossil fuels. Wyoming relies on fossil fuel revenue (from private, state, and federal lands) for more than half of its budget, allowing the state to maintain relatively low property and sales taxes and to avoid collecting income taxes altogether.<sup>20</sup> As a result, the increases in government services created by new workers (and their families) outside the energy sector cost more than the tax revenue they generate. The state's lack of revenue diversity limits economic diversification options and contributes to political opposition to transitions away from fossil fuel production. Diversifying Wyoming's tax structure will be key for stabilizing the state's future revenue.

## Savings and fiscal policies can help manage volatility

States can choose to manage their revenue in ways that insulate or expose themselves to changes in fossil fuel revenue. Large and uncertain disbursements of federal fossil fuel revenue should not be relied on for government operating expenses. Similarly, capital projects should not rely on volatile fossil fuel revenue for ongoing maintenance and/or debt payment services.

States can mitigate the volatility and uncertainty of the fossil fuel industry by saving money in budget reserves and permanent funds.

Budget reserve funds, commonly referred to as budget stabilization or rainy-day funds, are important tools for managing short-term budget shortfalls. They can be used to bolster budgets when revenue unexpectedly declines. In practice, however, these budgets can

## Local governments & revenue vulnerability

Local governments can become dependent on federal disbursements even where the state government may appear to have limited or no dependence. This is particularly true of rural and isolated counties that have specialized economies. Local governments may lack capacity and autonomy to manage volatility, save, and/or diversify the local tax base.

For example, Big Horn County, Montana, is [dependent on revenue from federal coal](#) leasing and production although Montana is not. As coal revenue and federal disbursements have declined, the county has had to raise property taxes by a third, impose and increase new fees, and is in [litigation with mining companies over back-taxes](#). The county has received little support from the state and few tools for revenue diversification at the local level.

Although the county may be able to pivot its identity and economy away from coal and toward new cultural and recreational activities, it is unlikely to replace the revenue lost from federal coal disbursements. State-level limitations on property and sales taxes constrain the county's options for capturing revenue from new economic sectors.

This example of local dependence underscores the need to take a multi-scalar approach to assessing and addressing the risk of dependence. States that reform fiscal policies to enable long-term savings and provide local governments with flexibility in managing their revenue will help make budgets more resilient to economic and policy changes.



become political. Legislatures may repeatedly use budget reserves to make up for structural budget problems, making them a less enduring tool for managing volatility.

Permanent funds are fiscal tools designed to stabilize and save fossil fuel revenues to create long-term returns. Revenue deposited in permanent funds generates interest and provides distributions in perpetuity, assuming the principal is protected.

In the United States, permanent funds are typically funded by revenue generated from state public lands and/or state taxes on fossil fuel production. For example, the Texas Permanent School Fund and Texas Permanent University Fund, the largest education permanent funds in the country, are largely funded by oil and gas development on state trust lands. Other examples of permanent funds can be found in New Mexico, North Dakota, West Virginia, and Wyoming.<sup>21</sup>

New Mexico is an example of a state that has insulated its budget from volatility by investing fossil fuel revenue (from private and state lands) into permanent funds, the State Land Grant Permanent Fund and Severance Tax Permanent Fund. The State Land Grant Permanent Fund receives revenue from fossil fuel production on state land, whereas the Severance Tax Permanent Fund receives revenue from oil and gas leases on public and private land. As of April 30, 2021, the two permanent funds have a combined balance of \$29.2 billion, guaranteeing public schools and other state services more than \$1 billion annually in permanent and dedicated funding.<sup>22, 23</sup> Given the funds' recent growth, this amount is expected to grow to nearly \$1.5 billion annually in the future. The permanent funds provide New Mexico with stable and predictable revenue disbursements, making it far less dependent on new or existing annual oil and gas revenue.

## 4. Solutions to federal fossil fuel dependence

Dependence is complex and entrenched. Federal and state solutions *cannot* be piecemeal. A comprehensive approach is needed to help state and local governments overcome dependence on all forms of fossil fuel revenue (including revenue generated from federal, state, and private lands and waters).

Solutions to help state and local governments better manage fossil fuel revenue generated from the federal leasing program include:

1. Assess vulnerability and prioritize assistance;
2. Save and stabilize revenue;
3. Steward public resources for public benefit.

### Assess vulnerability and prioritize assistance

State and local governments that receive federal fossil fuel disbursements have different levels of exposure to fossil fuel volatility. Assessing state and local governments' vulnerability to declining revenue is key for prioritizing how and where resources should be directed to support economic transitions.

States and communities that host fossil fuel production may face challenges in diversifying their revenue streams. For instance, fiscal policies that prohibit certain taxes or prevent tax increases can entrench reliance on volatile fossil fuel revenue. Governments that have the autonomy and flexibility to raise revenue typically have better fiscal outcomes.<sup>24,25</sup>

Historical inequities and geography can also be barriers to diversifying revenue. Communities that have lower income levels and/or have been historically disinvested in may have less capacity to overcome vulnerabilities. Additionally, rural and isolated communities with economies specialized around natural resource production are more likely to be dependent on federal payments. Subsequently, they are at greater risk of

State and local governments need capacity, resources, and flexibility to transition away from fossil fuels.

fiscal crisis if payments decline, and they are less able to replace payments with diversified revenue from other sources. Communities with these types of barriers will need more resources and assistance to navigate economic transitions.

Currently, federal fossil fuel disbursements are not determined according to a jurisdiction's capacity or need. Disbursements are direct revenue-sharing payments allocated to where production occurs. Consequently, disbursements may not align with where impacts from production occur. A county may host fossil fuel production and receive federal disbursements while the workforce lives in an adjacent county that does not receive federal disbursements. Federal and state leaders should prioritize assistance to resource-dependent places, provide stabilized payments based on where resources were extracted and where associated impacts occurred, and consider other factors that address relative isolation, poverty, equity, indirect impacts, and development opportunity.

## Save and stabilize revenue

Federal fossil fuel payments are volatile and unevenly disbursed,<sup>26</sup> making it challenging for state and local governments to use the revenue to create long-term plans and fulfill economic development goals. Most state governments spend federal fossil fuel disbursements on operating expenses. This creates a risk that states will experience budget shortfalls if federal disbursements decline, forcing lay-offs, deferred maintenance, and cuts to critical government services.

Save and invest revenue in permanent funds to be better prepared for inevitable economic transitions.

Both federal and state governments should prioritize saving and stabilizing federal fossil fuel disbursements to reduce the risk of dependence and prepare for inevitable transitions. States can stabilize revenue by allocating federal disbursements to budget reserves to prepare for short-term revenue decline and also creating and investing in permanent funds for longer-term stability.

Federal revenue-sharing policies and one-time appropriations are not sufficient tools for addressing economic transitions in states that host fossil fuel production.<sup>27</sup> Rather, federal policies should provide stable, predictable, and long-term funding to states and local governments that need transition assistance. Creating a national resource endowment fund is an example of a solution. A national resource endowment fund would convert the value of one-time nonrenewable resources into financial assets that can be used in perpetuity, providing stable distributions to state and local governments. Long-term, predictable payments from permanent funds can help rural communities build wealth and prosperity from natural resource economies and provide flexibility to manage public lands for multiple values.

## Steward public resources for public benefit

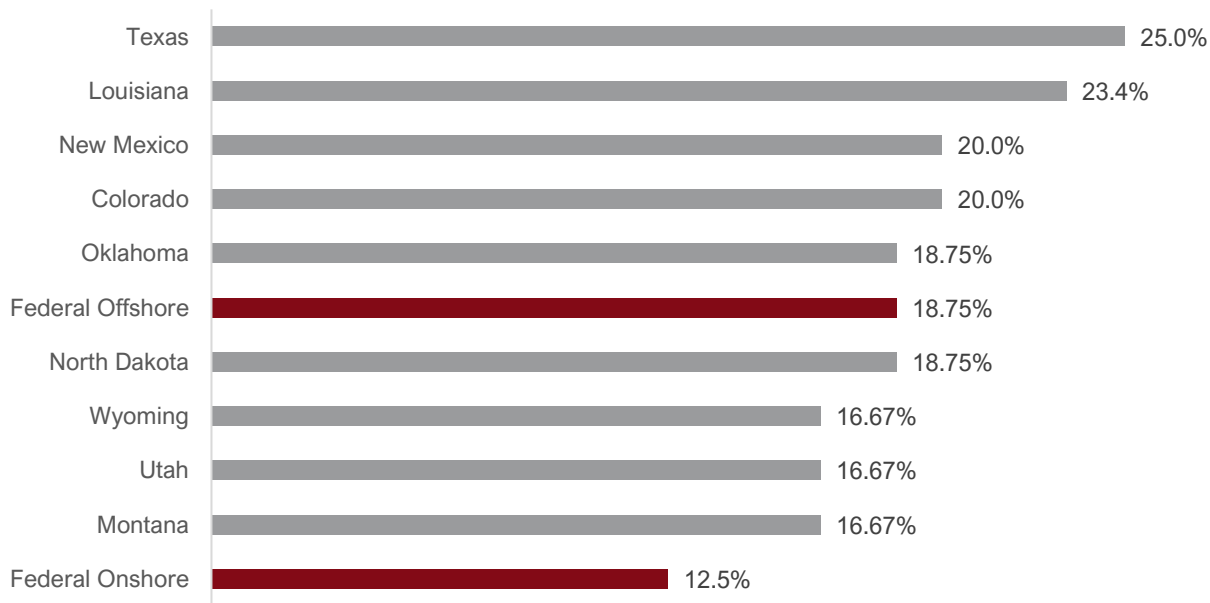
The federal leasing program was designed to generate public revenue and benefits from private economic activity on public lands.<sup>28,29</sup> However, the public has not always been fairly compensated for depletion of mineral resources on public lands and is often left with clean-up costs from fossil fuel production.

Capture the true costs of fossil fuel production by raising federal royalty rates and reclamation bond amounts.

Policy updates are needed to ensure fair returns and stewardship not only from fossil fuel production, but also from other, emerging uses of public lands—including renewable energy generation, transmission, and storage. Revenue structures must be adaptable to changing economic demands and reformed to ensure the future uses of public lands benefit communities and taxpayers.<sup>30</sup>

Federal royalty rates for oil and gas development offer a cautionary tale. Federal royalty rates for onshore fossil fuel production have not changed since the Mineral Leasing Act was passed in the 1920s. These outdated rates no longer ensure that taxpayers are receiving sufficient benefits from public leasing and production.<sup>31</sup> In contrast, state governments have been more proactive at raising royalty rates for fossil fuel production on state lands. As shown in Figure 7, federal royalty rates are significantly lower than state royalty rates, particularly for onshore production. A report by the Government Accountability Office found that while higher federal royalty rates may suppress production, they would ultimately generate additional net revenue—as much as \$730 million per year.<sup>32</sup> There are also proposals to incorporate climate costs into the federal leasing and production disbursement structures.<sup>33</sup>

Figure 7. Comparison of federal land (onshore) and water (offshore) royalty rates and state land royalty rates.<sup>34</sup>



Additionally, insufficient reclamation bond amounts constrain public benefits and can leave taxpayers on the hook for industry’s clean-up costs. When operators lease public land, they post reclamation bonds that are returned to them once production ends and site reclamation and clean-up fulfills federal requirements. However, reclamation bonds often do not fully cover reclamation costs. When bond amounts are too low, operators are incentivized to forfeit bonds and abandon wells, shifting reclamation costs from industry to taxpayers.<sup>35</sup> Like royalty rates, federal bonding amounts have not been adjusted in decades, and many wells on federal lands do not have adequate bonds for reclamation. Higher bond amounts would help incentivize necessary reclamation.<sup>36</sup>

Since federal lands will likely continue to play a role in producing energy, royalty and fee structures for renewable and nonrenewable energy production must be updated to ensure public benefits.<sup>37</sup> Policy reforms to the federal leasing program should prioritize protecting and creating multiple values associated with public lands and waters, including habitat, recreational, cultural, and economic benefits.

## 5. Future research needs

Previously, little was known about how states allocate their federal fossil fuel disbursements. This report begins to address this knowledge gap by investigating allocation strategies for 14 states that receive significant onshore and offshore federal fossil fuel disbursements. This analysis provides important data for identifying state and local governments that may be vulnerable to declines in federal fossil fuel disbursements.

Notably, there were significant challenges in acquiring some of the data in this report. After months of inquiries, we were ultimately unable to acquire state allocation data for Alabama 8(g) offshore payments, Louisiana onshore payments, and Mississippi 8(g) offshore and onshore payments. The level of detail and data availability varied immensely among states, making it challenging to fully understand the extent to which states and local governments may or may not be dependent on federal fossil fuel disbursements. Future research and policy changes should prioritize standardizing fiscal data and improving transparency.

Given the complexity of dependence, additional analyses should be conducted to assess risks in specific states and communities. The data in this report and companion data download can be used to conduct more in-depth analyses of whether a specific state, agency budget, or local government is dependent on federal fossil fuel disbursements. Additional analyses should incorporate how the broader context—including the state's economy, tax structure and fiscal policies, and budgeting processes—exacerbate or insulate budgets from the risk of dependence.

The federal leasing program represents a small portion of total fossil fuel production in the U.S. Nonetheless, it generates significant revenue—an average of \$2 billion per year—for states. This revenue can be used to build capacity in state and local institutions and invest in place-based assets, including good schools, access to health care, parks and libraries, and functioning infrastructure.<sup>38</sup> However, federal disbursements can also lead to volatile swings in revenue and create dependency on a single economic sector.

Inevitable energy transitions and potential changes to federal fossil fuel policies underscore the need for states to reexamine fiscal strategies around fossil fuels. Improvements to the federal leasing program, coupled with state fiscal policy reforms, are needed to ensure that future minerals development, renewable energy, transmission, and storage projects on federal lands and waters create long-term wealth for state and local governments as opposed to dependence.

## Appendix A: Methods

This analysis evaluated the 10 states that receive the largest amounts of onshore federal fossil fuel disbursements, as well as four additional states (Alabama, Louisiana, Mississippi, and Texas) that receive significant offshore disbursements. Table A1 shows the states included in this report and availability of data.

Table A1: States Included in Analysis

State	Type of Revenue	Data Available (FY)
Alabama	Onshore & Offshore	2018-2020
Alaska	Onshore & Offshore	2018-2020
California	Onshore & Offshore	2003-2020
Colorado	Onshore	2017-2020
Louisiana	Onshore & Offshore	2003-2020
Mississippi	Onshore & Offshore	2009-2020
Montana	Onshore	2005-2020
Nevada	Onshore	2015-2020
New Mexico	Onshore	2015-2020
North Dakota	Onshore	2018-2020
Oklahoma	Onshore	2017-2020
Texas	Onshore & Offshore	2016-2020
Utah	Onshore	2016-2020
Wyoming	Onshore	1996-2020

The companion data download<sup>2</sup> provides complete data and methodology for state allocations, including sources, state-by-state data, and calculations used. We obtained fiscal year and monthly disbursement and revenue source data from the Office of Natural Resources Revenue (ONRR). There are discrepancies within Office of Natural Resources Revenue's databases when monthly data is aggregated by fiscal year. Data for revenue by type, disbursement by beneficiary, and disbursement by state and commodity are not included in the companion data and can be directly downloaded from the Office of Natural Resources Revenue's website: <https://www.onrr.gov>.

To determine state allocations, we used a two-step methodology.

First, we researched states' policies and procedures for allocating federal disbursements. This involved finding relevant statutes, administrative rules, and other policy documents that address the following: 1) which state agencies and departments are responsible for receiving federal mineral leasing and production disbursements; 2) which accounts, funds, and programs receive those funds; and 3) what portion of disbursements are allocated to those beneficiaries. When online searching was insufficient, follow-up phone calls were made to state employees to verify how federal disbursements were allocated.

Second, we isolated fossil fuel disbursements from the total amount of federal mineral disbursements and analyzed how states allocate federal fossil fuel disbursements. Data were collected from a variety of state publications including budgets, financial reports, audits, and other documents. When data could not be found from a review of published documents, we relied on direct communications with state employees to identify and secure data. In most instances, we were able to receive data showing exact allocations and distributions from the state to various beneficiaries. When we were not able to find this data, either because the state agencies were unable to provide it or it was combined with other fossil fuel revenues received by the state, we used our policy information to calculate estimates of state allocations. Estimates were based on Office of Natural Resources Revenue monthly disbursement data after summarizing based on total fiscal year disbursements.

State allocations were characterized into three main areas: state expenditures, local government distributions, and savings. Detail for each state can be found in the companion data download. It should be noted that estimates of how states allocate federal mineral disbursements can be complicated by state-specific budgeting structures. Additionally, annual disbursements shown in ONRR do not always match annual state allocations due to differences in fiscal years.

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