# Hydrocarbons and Geothermal Energy Office

**Hydrocarbons and Geothermal Energy Office**
(formerly Fossil Energy and Carbon Management (FECM))
**($K)**

| FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request | FY 2027 Request vs FY 2026 Enacted |
|---|---|---|---|
| 1,226,909 | 787,000* | 676,042 | -110,958 |

**Proposed Appropriation language:**

*For Department of Energy (DOE) expenses necessary in carrying out hydrocarbons and geothermal energy research and development activities, under the authority of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition of interest, including defeasible and equitable interests in any real property or any facility or for plant or facility acquisition or expansion, and for conducting inquiries, technological investigations and research concerning the extraction, processing, use, and disposal of mineral substances without objectionable social and environmental costs (30 U.S.C. 3, 1602, and 1603), $676,042,000, to remain available until expended: Provided, That of such amount $73,042,000 shall be available until September 30, 2028, for program direction.*

**Overview**

The Hydrocarbons and Geothermal Energy Office (HGEO) conducts research, development, demonstration, and deployment (RDD&D) to unleash the full potential of America's hydrocarbon and geothermal resources to provide affordable, reliable, and secure energy. Through applied innovation and U.S. energy leadership, HGEO develops and advances breakthrough technologies that lower costs and power American prosperity, freedom, and human flourishing. By leveraging America's hydrocarbon and geothermal resources, HGEO works to enhance reliable baseload power, strengthen grid reliability, and improve long-term energy security for communities nationwide. The Office will lead work on funding opportunities, and in-house lab research coordinated through the NETL Centers of Excellence. The Office also has oversight responsibilities over the Strategic Petroleum Reserves, Naval Petroleum and Oil Shale Reserves, and the Northeast Home Heating and Oil Reserve.

HGEO will work with a sense of urgency across offices and agencies as one team to advance the Administration's America-first energy agenda, working to eliminate and prevent fraud, waste and abuse of taxpayer funding. RDD&D initiatives will be grounded through science and economics, applying technology to work efficiently, and partnering with industry and leveraging national lab capabilities to solve challenges with commercial viability. Additionally, HGEO will work to efficiently approve new liquified natural gas (LNG) authorizations to meet global demand for American LNG. These efforts will leverage facts and data to reach sound, durable decisions and deliver results for the American people.

The FY 2027 Request for HGEO will extend the impact of the Department of Energy's (DOE) activities by leveraging creative funding mechanisms—such as prizes, competitions, technical assistance, and programs targeted at industry, academia and small businesses. The goal is to enable the commercialization of innovations that will reduce costs, accelerate deployment, and spur job creation. This request also includes funding for the basic operating costs of HGEO and investment at NETL.

**Hydrocarbons and Geothermal Energy**
**($K)**

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request | FY 2027 Request vs FY 2026 Enacted | |
|---|---|---|---|---|---|
| | | | | $ | % |
| *Power & Capture* | *161,000* | *125,000* | *88,500* | *-36,500* | *-29%* |
| *Mining & Processing*[1] | *14,000* | *7,000* | *30,000* | *+23,000* | *+329%* |
| *Conversion & Products* | *52,500* | *95,000* | *28,000* | *-67,000* | *-71%* |
| Subtotal, Office of Coal | 227,500 | 227,000 | 146,500 | -80,500 | -35% |
| *Production Technologies* | *80,500* | *55,000* | *54,000* | *-1,000* | *-2%* |
| *Transportation and Storage* | *170,000* | *101,500* | *82,000* | *-19,500* | *-19%* |
| *Power, Fuels, and Chemicals* | *30,000* | *30,000* | *24,500* | *-5,500* | *-18%* |
| Subtotal, Office of Oil and Gas | 280,500 | 186,500 | 160,500 | -26,000 | -14% |
| Geothermal Energy[2] | 487,909 | 150,000 | 150,000 | - | -% |
| Subtotal, Subsurface Energy (Coal, Oil and Gas, and Geothermal) | 995,909 | 563,500 | 457,000 | -106,500 | -19% |
| University Training, Research and Recruitment | 12,000 | 7,000 | 8,000 | +1,000 | +14% |
| Program Direction | 70,000 | 70,000 | 73,042 | +3,042 | +4% |
| NETL Infrastructure | 55,000 | 57,000 | 58,000 | +1,000 | +2% |
| NETL Research and Operations | 89,000 | 87,000 | 80,000 | -7,000 | -8% |
| Interagency Working Group | 5,000 | 2,500 | - | -2,500 | -100% |
| **Subtotal, Hydrocarbons and Geothermal Energy** | **1,226,909** | **787,000**[4] | **676,042** | **-110,958** | **-14%** |
| Repurposed IIJA Funds | - | -140,000[3] | - | - | - |
| **Total, Hydrocarbons and Geothermal Energy** | **1,226,909** | **647,000**[4] | **676,042** | **29,042** | **4%** |

[1] A portion of critical minerals work remains in the HGEO account, while the remainder has moved to the CMEI account in FY 27

[2] This account was funded in the EERE appropriation in FY 25 and FY 26 but was realigned to HGEO in FY 26. Funding shown for this activity in all 3 years for comparative budget display

[3] Per FY 26 Enacted, $140,000 was repurposed of IIJA funding provided by P.L. 117-58

[4] Includes appropriations for all programs realigned to HGEO

## Office of Subsurface Energy

### Overview

The Office of Subsurface Energy within HGEO aims to unleash the full potential of America's hydrocarbon and geothermal resources to ensure affordable, reliable, secure energy for the nation. Through targeted research and development efforts, the Office of Subsurface Energy will partner with industry and leverage national laboratory capabilities to tackle some of the most intractable technical challenges facing energy projects across the country.

The Office of Subsurface Energy is comprised of three research and development (R&D) offices:

- The Office of Coal, which aims to stabilize, optimize, and grow the American coal industry, restoring it as a cornerstone of the nation's energy mix;
- The Office of Oil and Gas, which ensures the resilience of U.S. oil and natural gas by increasing production and improving recovery factors through enhanced gas recovery (EGR) and enhanced oil recovery (EOR), especially $CO_2$ EOR, and infrastructure reliability; and
- The Office of Geothermal, which works to accelerate the discovery and development of gigawatt-scale geothermal energy and position geothermal as a competitive domestic source for reliable baseload electricity generation.

A description of each Office's activities is presented below:

**Office of Coal**

The Office of Coal will oversee all R&D related to coal mining and processing, power production, point-source capture, and conversion to products. The office will lead the HGEO's work on funding opportunities and in-house lab research for coal-related efforts. With the FY 2027 Budget Request, the Office of Coal invests in technologies that support and produce an abundance of domestic fossil energy, with a particular focus on transforming coal production and processing capabilities, modernizing and extending the life of our existing coal mines and coal-based power fleet, optimizing efficiencies across the extraction, processing, and power generation value chain, supporting the growth of coal-based power generation, exports, and product manufacturing, and prioritizing carbon dioxide capture and utilization for Enhanced Oil and Gas Recovery.

**Office of Oil and Gas**

The Office of Oil and Gas works to ensure American energy dominance through the development of our Nation's abundant domestic hydrocarbon resources. The Program's R&D will enable affordable, reliable and secure fossil energy resources throughout the upstream, midstream, and downstream sectors. The Office of Oil and Gas consists of three programs: Production Technologies (upstream); Transportation and Storage (midstream); and Power, Fuels, and Chemicals (downstream).

The Production Technologies program focuses on developing technologies and solutions that accelerate oil and natural gas exploration and production. The Transportation and Storage Program focuses on comprehensive solutions to improve reliability, safety, and security; and to minimize product loss across the hydrocarbon supply chain. The Power, Fuels, and Chemicals Program conducts research and development of technologies and solutions to enable 24/7 dispatchable advanced energy systems that provide low-cost baseload power and resilient flexible energy system services, as well as improves the flexibilities of domestic refineries to better utilize a broader base of domestic feedstocks with higher efficiency and lower cost.

**Office of Geothermal**

The Office of Geothermal (OG) plays a crucial role in advancing geothermal technology towards full commercialization by systematically addressing and overcoming technical deployment barriers. Through strategic RD&D initiatives, OG fosters innovation, promotes field-based "learning-by-doing," and standardizes technical approaches. This strategy effectively de-risks emerging geothermal technologies and efficiently moves these technologies towards commercialization.

In addition, the office assesses non-technical barriers limiting commercialization today and actively strategizes future opportunities across geothermal use cases. This involves robust grid analysis, thorough impact and market assessments, detailed techno-economic evaluations, and other proactive efforts to streamline the permitting process and increase awareness of the numerous economic and energy security benefits that geothermal technology offers.

The OG portfolio is organized into three critical pillars that address barriers across the entire geothermal development lifecycle, including innovation-focused lab and field-scale programs designed to meet the industry's most pressing needs and facilitate rapid technological advancements: Technology Research and Development, Pilots and Demonstrations, and Commercial Scale-Up.

**Office of Subsurface Energy**
**($K)**

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| Office of Coal | 227,500 | 227,000 | 146,500 |
| Office of Oil and Gas | 280,500 | 186,500 | 160,500 |
| Office of Geothermal | 487,909 | 150,000 | 150,000 |
| **Total, Office of Subsurface Energy** | **995,909** | **563,500** | **457,000** |

**Explanation of Changes for Office of Subsurface Energy**

**Office of Coal:** The FY 2027 Request re-focuses funding to support critical activities for modernizing and extending the operational life of coal mines and the coal-based power fleet, while also addressing energy demands from artificial intelligence and data centers. The Request also reflects a renewed emphasis on supporting transformational technologies to boost our coal mining and processing capabilities and consolidates all related R&D for coal conversion technologies into a single program office for more flexibility. The Request also supports carbon dioxide capture and utilization for Enhanced Oil and Gas Recovery initiatives within the Office of Coal.

**Office of Oil and Gas:** Focus areas shift to emphasize technologies that will develop the Nation's abundant oil and gas resources including research to enhance/increase production of existing unconventional oil and gas and to reduce the cost of produced water management and disposal. Funding reduces R&D efforts focused on basin-scale emissions reconciliation projects and other larger-scale methane emissions monitoring efforts and refocusing on activities that support processing and conversion solutions to fully recover the value of natural gas. In the downstream, the program redirects research from 100% hydrogen turbines to next generation gas turbines. Research will support increased efficiency, extreme temperature environments, materials development and cost reduction through AI/ML techniques, and advanced manufacturing development. The program will also conduct new research on improving domestic refining capabilities.

**Office of Geothermal:** The FY 2027 Request maintains focus on high impact R&D topics across Enhanced Geothermal Systems (EGS) and Hydrothermal sectors. This includes nationwide exploration programs and R&D to improve efficiency of power plants and reduce drilling costs. The FY 2027 budget will also maintain the office level focus on harsh environment materials needed to improve the robustness of subsurface drilling, stimulation, and evaluation tools to operate in high temperature and corrosive geothermal subsurface environments. Similarly, the FY 2027 Request looks to maintain momentum on EGS greenfield demonstrations, thermal energy pilots as applicable, and field campaigns to "modernize hydrothermal" by applying modern oil and gas drilling and stimulation techniques to marginal hydrothermal resources. Finally, the request will prioritize value and impact-related analyses for geothermal power and storage technologies; work to address critical geothermal project permitting challenges and to increase the awareness and acceptance of geothermal energy; and research focused on utilizing AI and machine learning techniques to integrate subsurface datasets into platforms suitable for advanced computational analysis and foundational AI model training.

# Office of Coal

## Overview

Coal is a valuable resource with national energy security and manufacturing importance. In FY 2027, the new Office of Coal will oversee initiatives that align with national priorities for energy security, economic competitiveness, and responsible resource management, while stabilizing, optimizing, and growing the American coal industry and restoring it as a cornerstone of our energy mix.

The Office of Coal will oversee all R&D related to coal mining and processing, power production, point-source capture, and conversion to products. The Office of Coal will leverage insights and recommendations from four regional coal workshops, scheduled for FY 2026, to inform and strategically shape the coal program. The office will also be informed by direct engagement with the National Coal Council and other industry stakeholders.

The Office of Coal will lead the HGEO's work on funding opportunities; in-house lab research coordinated through the NETL Center of Excellence for coal-related efforts. With the FY 2027 budget request, the Office of Coal invests in technologies that support and produce an abundance of domestic fossil energy, with a particular focus on the following key priorities:

- **Transforming coal production and processing capabilities to reduce breakeven costs** by reimagining mining operations using AI and automation, enhancing processing efficiencies, and integrating innovative energy extraction methods like Enhanced Coal Bed Methane (ECBM) recovery and Underground Coal Gasification (UCG).
- **Modernizing and extending the life of our existing coal mines and coal-based power fleet** by identifying aging and retired coal power generation assets for opportunities to upgrade/re-power, and/or carbon dioxide utilization for Enhanced Oil and Gas Recovery.
- **Optimizing efficiencies across the extraction, processing, and power generation value chain** by developing and demonstrating technologies and processes to improve mine and combustion waste management, that advance combustion and power generation techniques and provide methods to decrease excessive power generation ramping caused by intermittent sources.
- **Supporting the growth of coal-based power generation, exports, and product manufacturing** by expanding the current coal fleet through efforts to recommission or reclassify new coal plants as well as increasing the capacity factor through energy storage techniques, pursuing opportunities to decrease logistical costs and constraints of exporting coal, and supporting technology development for expanding coal-to-products viability, while recognizing the unprecedented growth in energy demand from data centers and AI.

The Office of Coal's programs will pursue the following major activities in FY 2027:

**<u>Power and Capture ($88.5 million)</u>**

The Power and Capture program provides a platform for developing technologies that stabilize, optimize and grow the American coal industry. The program will focus on (i) modernizing and extending the life of U.S. existing coal-based power fleet, (ii) developing advanced coal electric generation technologies (e.g., oxy-combustion, chemical looping, flexible operation), and (iii) capturing and converting plant waste streams ($CO_2$, $SO_2$, wastewater, coal combustion residuals (CCRs)) into co-products (e.g., gypsum, hydrocarbon recovery through $CO_2$ EOR and EGR) to improve the economic competitiveness of coal-fired power plants. Improvements to new and existing plants may allow these assets to provide low-cost baseload power and resilient flexible grid services. These activities support the Administration's priority of increasing American energy production.

**Mining and Processing ($30 million)**

The Mining and Processing program is a brand-new program focused on developing transformational technologies and applies science and technology to address challenges with domestic mining and processing of coal. The new program will focus on mining and processing innovations, investigating challenges and opportunities in exports, logistics, and markets, and boosting energy production by finding ways to extract hard-to-reach coal through novel approaches. The program will be responsible for conducting economic analysis to support optimization of logistics to enable exports.

**Conversion and Products ($28 million)**

The Conversion and Products program will bolster domestic energy security and resilience via coal -derived fuels and chemicals, while also generating opportunities for new export markets for coal-derived products. The request will support research, development, and demonstration to identify critical technical challenges associated with the cost-effective and selective upgrading of coal by-products and conversion of waste gas to products, as well as efforts related to coal gasification, and finding methods to utilize unused generation capacity.

**Office of Coal**
**($K)**

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| Power and Capture | 161,000 | 125,000 | 88,500 |
| Mining and Processing | 14,000 | 7,000 | 30,000 |
| Conversion and Products | 52,500 | 95,000 | 28,000 |
| **Total, Office of Coal** | **227,500** | **227,000** | **146,500** |

**Explanation of Change for Office of Coal**

**Power and Capture**: The reduced overall Budget Request reflects two primary factors: the transfer of Advanced Turbines' activities to the Office of Oil and Gas, and a strategic refocusing on Administration priorities. This refocusing aims to appropriately fund initiatives critical for modernizing and extending the operational life of coal mines and the coal-based power fleet, while also addressing energy demands from artificial intelligence and data centers.

**Mining and Processing:** The increased funding reflects a renewed emphasis on mining and processing initiatives within the Office of Coal. This program's funding is reallocated from the former Office of Resource Sustainability to support the development of transformative technologies for coal extraction and processing, concurrently enhancing analysis aimed at increasing exports and boosting energy production.

**Conversion and Products:** Funding indicates a strategic shift from carbon dioxide ($CO_2$) conversion research to efforts focused on converting coal into marketable products. This reduction also optimizes the program, by consolidating all related R&D for coal conversion technologies under a single program office.

## Office of Coal
## Power and Capture

### Overview

The Power and Capture program provides a platform for developing technologies that stabilize, optimize and grow the American coal industry restoring it as a cornerstone of our energy mix. The focus will be on (i) modernizing and extending the life of U.S. existing coal-based power fleet through efforts to recommission or reclassify, (ii) developing advanced coal electric generation technologies (e.g., oxy-combustion, chemical looping, flexible operation), and (iii) capturing and converting plant waste streams ($CO_2$, $SO_2$, wastewater, coal combustion residuals (CCRs)) into co-products (e.g., gypsum, hydrocarbon recovery through $CO_2$ Enhanced Oil Recovery (EOR) and Enhanced Gas Recovery (EGR)) to improve the economic competitiveness of coal-fired power plants. Improvements to new and existing plants may allow assets to provide low-cost baseload power and resilient flexible grid services. These activities support the Administration's priority of increasing American energy production. This program is comprised of several activities that include Gasification Systems, Advanced Energy Materials, Sensors, Controls and Other Innovative Concepts, Simulation-Based Engineering and Point Source Capture.

### Highlights of the FY 2027 Budget Request

In FY 2027, the Request of $88.5 million will support R&D efforts to advance coal-based energy systems at existing facilities which employ advanced combustion approaches and materials, artificial intelligence and machine learning (AI/ML) integration, and advanced manufacturing. Supported R&D projects will: (i) test and validate sensors, diagnostic approaches, and develop digital twin models that can improve the efficiency, reliability, and/or flexibility of existing plant operations, (ii) validate technologies aimed at improving efficiency, reliability, or flexibility of individual components at coal-fired power plants. These projects aim to enable commercial deployment in the next three to five years, to improve efficiency, reliability, and flexibility of existing coal-based power plants, extending the economic life of coal plants.

The Request will also support developing and testing novel designs for coal electric generation, including oxygen-driven combustion technologies (e.g., chemical looping, oxy-combustion) and highly efficient processes integrated with hybrid/thermal energy storage systems for improved operational flexibility. RD&D activities will also focus on integrating coal electric power generation behind the meter loads, providing reliable and flexible behind-the-meter generation while maintaining performance, reliability, and affordability.

In FY 2027, the Request will also support RD&D efforts to optimize cost, performance, and reliability of capture technologies to provide economical sources of $CO_2$. This aims to deliver $CO_2$ at less than $\$30/tCO_2$ within the next decade, to specific geographic regions where it is needed for boosting hydrocarbon extraction via EOR or EGR. Key RD&D elements include lab-scale approaches for cost-effective $CO_2$ purification methods and conceptual designs of $CO_2$ central processing facilities to enable low-cost $CO_2$ availability for EOR/EGR. The program will also focus RD&D for industrial applications on sectors with the potential to supply the greatest quantities of $CO_2$ at the lowest cost. Funding from the Budget Request will help develop carbon capture technologies based on pre-combustion, post-combustion, and oxy-combustion approaches. A key element of these efforts will be continued support and operation of carbon capture testing centers that can provide real-world environments to validate and prove these transformational technologies. Furthermore, activities will investigate approaches to optimize the capture process for coal-based load-following/demand-responsive electricity generators.

**Power and Capture**
**($K)**

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| **Total, Power and Capture** | **161,000** | **125,000** | **88,500** |

**Explanation of Changes for Power and Capture**

The proposed FY 2027 Budget Request reduces funding for the Power and Capture program to refocus efforts on advancing coal-based energy systems, supporting and testing novel concepts for coal electric generation, and supporting efforts to optimize cost, performance, and reliability of capture technologies. The Request also shifts funding from our previously named Advanced Energy Systems program for Advanced Turbines to the Office of Oil and Gas to align with Administration priorities**.**

**Office of Coal**
**Mining and Processing**

## Overview

The FY 2027 Budget Request for the Mining and Processing program of $30 million will allow the Office of Coal to undertake research and development (R&D) to modernize coal mining and processing, extend the life of existing mines, and grow the industry by enabling recovery of coal from seams previously considered un-mineable. The program will encompass efforts for advancing mining research and development by leveraging technologies such as robotics, automation, and artificial intelligence (AI) to enhance mining safety and operational efficiency. The program will also advance technologies that aim to innovate processing techniques, including recovering fines and utilizing methods such as plasma and biomimicry.

The program will investigate current challenges and opportunities in domestic transport and export infrastructure and provide insight into opportunities to improve coal preparation, beneficiation during transport, and identify U.S. coal export opportunities. The program will build upon knowledge gained from regional coal workshops planned in FY 2026 and will leverage insights from industry stakeholders to stabilize and grow U.S. coal export capacities in vital transportation corridors while supporting the development of new, secure, and reliable markets for U.S. coal production. The program will also seek to boost production by identifying new opportunities for innovative energy extraction methods for otherwise unrecoverable coal reserves that include enhanced coalbed methane recovery and underground gasification. This program includes the Carbon Ore Processing program.

By investing in innovative technologies, the Mining and Processing program seeks to transform technical and operational challenges within coal mining, processing, domestic transport, and exports into opportunities for economic growth, improved resource stewardship, and increased market competitiveness. This focused R&D supports the role of coal resources in delivering energy security, reliability, and affordability.

## Highlights of the FY 2027 Budget Request

The FY 2027 Budget Request provides $30 million to focus on the following priority R&D areas:

- **Mining and Processing Innovation**: develop and use AI tools, robotics and automation, digital twins, and other technologies capable of improving cost-effective and efficient mining techniques for coal and coal-based processing streams, including coal as well as mine waste products from existing and prior mining.
- **Boosting production**: advance in-situ extraction and use of energy while minimizing waste through subsurface wells and autonomous mining systems. Also, aims to increase production by finding new ways to extract energy from hard-to-reach coal, such as coalbed methane recovery and underground gasification.
- **Exports, Logistics, and Markets**: develop novel beneficiation technologies and separation techniques to enhance monetization and efficiency during coal preparation and transport processes. Analysis will also be conducted to support optimization of logistics to enable exports.

**Mining and Processing**
**($K)**

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| **Total, Mining and Processing** | **14,000** | **7,000** | **30,000** |

**Explanation of Changes for Mining and Processing**

The increased funding will allow for transformational R&D efforts to modernize coal mining and processing, to align with Administration priorities. This program's funding is reallocated from previous Carbon Ore Processing efforts that were consolidated into the Mining and Processing program. The increased funding will also allow for analysis efforts to boost production.

## Office of Coal
## Conversion and Products

### Overview

The FY 2027 Budget Request of $28 million for the Conversion and Products program will bolster domestic energy security, resilience, and production via coal-derived fuels and chemicals, while also generating opportunities for new export markets for coal-derived products. The Request will support RD&D to identify critical technical challenges associated with the cost-effective and selective upgrading of coal by-products and conversion of waste to products. For most conversion pathways, these feedstocks require a significant amount of energy to be converted into a product. The program will address challenges with materials and catalyst durability, pathway selectivity, product acceptance in markets, and limited field trials and demonstrations in real-world environments. RD&D in these areas is needed to validate the technical feasibility of coal-based products, enable economic viability, and prove coal-based products can compete on performance in real-world environments.

The Conversion and Products program will be inclusive of RD&D related to coal gasification, which has the potential to play a key role in ensuring American energy dominance and domestic resource security by offering feedstock flexibility to produce fuels and other chemicals. This program includes the Carbon Utilization program. Gasification technologies can turn any carbonaceous feedstock into syngas and other chemical building blocks such as liquid fuels, chemicals (e.g., ammonia), and carbon products. This area of research is needed to lower costs and improve gasifier availability/reduce downtime, both of which remain major barriers to wider adoption. Better understanding of various feedstock behavior during the gasification process will help to improve product valorization, and methods for syngas cleanup, that in turn will enable coal gasification technologies to be more widely adopted and develop additional markets for coal and derived products.

In FY 2027, the Conversion and Products program will also develop technologies to produce high value carbon-based materials from coal and conversion of waste gas to products. Materials like graphite, carbon fibers, and pitch are necessary precursors for many of the most important technologies in modern life. By focusing on technologies that produce these materials, the program will secure material supplies from domestic sources at competitive market prices that are otherwise imported. The program will explore opportunities for converting or upgrading existing industrial facilities to use coal or waste gas feedstocks in their processes, including engagement with industry.

The Conversion and Products program will focus on products that include: high-value carbon products, especially those needed for the industrial economy, such as pharmaceutical precursors, graphite electrodes, battery anodes, and supercapacitor materials from carbon ore, as well as graphene, quantum dots, activated carbon, and conductive inks; universal infrastructure components (e.g., components and building materials for mass transit, sewers and tunnels, roads and bridges); and continuous process improvements to reduce capital and operating costs for future carbon products and conversion processes.

**Conversion and Products**
**($K)**

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request | FY 2027 Request vs FY 2026 Enacted | |
|---|---|---|---|---|---|
| | | | | $ | % |
| **Conversion and Products** | **52,500** | **95,000** | **28,000** | **-67,000** | **-71%** |

**Explanation of Changes for Conversion and Value-Added Products**

The FY 2027 Budget Request prioritizes funding to enhance alignment with Administration objectives and accelerate the conversion of coal into value-added products. This reduced allocation specifically directs new R&D towards coal gasification and the identification of existing resources for energy demands, while also consolidating coal conversion R&D efforts into a single program office, and no longer funding Carbon Dioxide Removal.

**Office of Oil and Gas**
(formerly Resource Sustainability)

## Overview

The Office of Oil and Gas works to ensure American energy dominance through the development of our Nation's abundant domestic hydrocarbon resources. The program's R&D will enable affordable, reliable and secure fossil energy resources throughout the upstream, midstream, and downstream sectors. The Office of Oil and Gas consists of three programs: Production Technologies (upstream); Transportation and Storage (midstream); and Power, Fuels, and Chemicals (downstream). The Office will lead the HGEO's work on funding opportunities, and in-house lab research coordinated through the NETL Center of Excellence for oil and gas-related efforts.

The Office of Oil and Gas will pursue the following major activities in FY 2027:

**Production Technologies ($54 million)** (formerly Advanced Remediation Technologies)
The Production Technologies program focuses on developing technologies and solutions that accelerate oil and natural gas exploration and production. The program will conduct R&D to increase oil and natural gas production, water management, and offshore efficiency, safety, and spill prevention. In addition, the Program will conduct research using Field Laboratories to explore enhanced gas recovery (EGR) and carbon dioxide enhanced oil recovery ($CO_2$-EOR) in unconventional reservoirs.

**Transportation and Storage ($82 million)** (formerly (1) Methane Mitigation Technologies, (2) Natural Gas Decarbonization and Hydrogen Technologies, (3) Carbon Transport and Storage, and (4) Advanced Storage Research and Development)
The Transportation and Storage Program focuses on comprehensive solutions to improve reliability, efficiency, safety, and security; and to minimize product loss across the hydrocarbon supply chain. The program focuses on improving the operational throughput, resiliency, and efficiency of oil and natural gas infrastructure and associated waste streams through advanced technology development and field validation. The program will also leverage energy infrastructure in the development of hydrogen production, transport, and storage and the cost-effective utilization of waste stream $CO_2$ to strengthen the U.S. energy landscape.

**Power, Fuels, and Chemicals ($24.5 million)** (formerly Hydrogen with Carbon Management)
The Power, Fuels, and Chemicals Program conducts research and development of technologies and solutions to enable 24/7 dispatchable advanced energy systems that provide low-cost baseload power and resilient flexible energy system services, as well as improves the flexibilities of domestic refineries to better utilize a broader base of domestic feedstocks with higher efficiency and lower cost.

**Office of Oil and Gas**
**($K)**

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| Production Technologies | 80,500 | 55,000 | 54,000 |
| Transportation & Storage | 170,000 | 101,500 | 82,000 |
| Power, Fuels, and Chemicals | 30,000 | 30,000 | 24,500 |
| **Total, Office of Oil and Gas** | **280,500** | **186,500** | **160,500** |

**Explanation of Change for Office of Oil and Gas**

**Production Technologies:** The decrease in the overall request reflects a $1 million reduction in the Gas Hydrates activity due to the completion of the field work for the Alaska North Slope Methane Hydrates Production Test, and a reduction in the Field Test Site effort that reflects the on-going level of effort needed after the higher levels of effort that were required to reinvigorate this activity in FY 2025 and FY 2026.

**Transportation and Storage:** Funding decrease reduces R&D efforts focused on basin-scale emissions reconciliation projects and other larger-scale methane emissions monitoring efforts, while expanding activities that support processing and conversion solutions to fully recover the value of natural gas liquids and technologies to enable efficient, low-cost treatment of sour hydrocarbon streams. Funding decrease also reduces R&D efforts that do not emphasize reliability, increased storage potential and security, or improved hydrocarbon system resiliency and throughput. While some hydrogen production pathways will be rescoped or downscaled, research related to geologic hydrogen resource characterization and development will be enhanced to demonstrate global leadership of this domestic resource opportunity in addition to existing blue and gray hydrogen R&D.

**Power, Fuels, and Chemicals:** Funding decrease reflects a shift in focus from 100% hydrogen turbines to next generation gas turbines. Research will support increased efficiency, extreme temperature environments, new materials and sensors, and simulations and artificial intelligence. The program will also support new research into advanced refining technologies.

**Office of Oil and Gas**
**Production Technologies**
(formerly Advanced Remediation Technologies)

## Overview

Fossil fuels are critical to unleashing American energy and creating an affordable, secure, and reliable energy sector. Oil and natural gas provide fuel for vehicles, heat for homes, chemicals, industrial goods, plastics, and other important products. The Oil and Gas Production Program conducts research and development of technologies and solutions to responsibly increase oil and natural gas production with a particular focus on unconventional reservoirs. Research areas include increasing recovery factors, enhanced oil recovery, production efficiency, water management, and offshore safety.

In the FY 2027 Budget Request:

HGEO has set a goal of doubling ultimate recovery in unconventional reservoirs. To accomplish this, the program will conduct R&D to increase production in oil and gas wells, develop new technologies and solutions, and lower the cost of recovery. The program will conduct research in lab and field environments (Field Laboratories/Test Sites) to increase production of unconventional onshore and offshore oil and gas resources (e.g., carbon dioxide enhanced oil recovery [$CO_2$-EOR], optimized hydraulic fracturing design), and will include AI/ML efforts in support of these objectives.

The program will conduct R&D to improve produced water management, aimed at reducing demands on freshwater resources and reducing the costs of disposal. This R&D will include produced water management options, treatment and reuse, and characterization for critical minerals and rare earth elements. This program is comprised of two sub-program activities, which include Advanced Production Technologies and Water Management.

A description of each activity is presented below:

<u>Advanced Production Technologies:</u>

The program will focus on advanced oil and gas production research, including unconventional oil and gas development, and testing technology and solutions in field environments. The program continues to build on previous research conducted by, and data collected from, the DOE's original 17 Field Laboratory projects, which resulted in a substantial body of knowledge about the geochemistry, geomechanics, and geophysics of oil and gas reservoirs.

The Field Test Sites program will focus on 1) research to enhance/increase production of existing unconventional oil and gas resources (e.g. $CO_2$-EOR, EGR, optimized hydraulic fracturing design); and 2) support research to understand the potential to develop new and emerging oil and gas plays. This will include AI/ML efforts in support of Field Test Sites objectives.

The program's offshore safety and spill prevention research will focus on identifying and mitigating risks from ocean currents and seafloor hazards, such as landslides; reducing risks associated with infrastructure used to deliver chemicals to the well and to bring produced fluids to the platform; and assessing, predicting, and mitigating the risks associated with an aging offshore infrastructure.

Water Management:

The program's water management effort will focus on the characterization, treatment and management of produced water to increase both recycling of produced water for oilfield activities (e.g. hydraulic fracture), and beneficial reuse of treated produced water for uses outside of the oilfield. Research will also characterize produced water for critical minerals and rare earth elements and evaluate the potential for extraction. Improved produced water management will reduce demand on freshwater resources and indirectly address induced seismicity issues by providing options for disposal.

No funding is requested for Gas Hydrates in FY 2027.

**Production Technologies**
**($K)**

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| **Total, Production Technologies** | **80,500** | **55,000** | **54,000** |

**Explanation of Changes for Production Technologies**

The decrease in the overall request reflects a reduction in the Gas Hydrates activity due to the completion of the Alaska North Slope Methane Hydrates Production Test. The increase in the request for Advanced Production Technologies reflects a higher level of effort in the Field Test Site effort to develop technologies that increase domestic oil and gas production from unconventional reservoirs, including $CO_2$ EOR and EGR.

**Office of Oil and Gas**
**Transportation and Storage**
(formerly (1) Methane Mitigation Technologies, (2) Natural Gas Decarbonization and Hydrogen Technologies, (3) Carbon Transport and Storage, and (4) Advanced Storage Research and Development)

## Overview

Hydrocarbon fuel infrastructure is critical to providing affordable, reliable, and secure energy for American consumers and industry. The Transportation and Storage Program focuses on comprehensive solutions to improve reliability, safety, and security. The program focuses on improving the operational throughput, resiliency, and efficiency of oil and natural gas infrastructure and associated waste streams through advanced technology development and field validation. The program will also leverage energy infrastructure in the development of hydrogen production, transport, and storage and the cost-effective utilization of $CO_2$ to strengthen the U.S. energy landscape.

The Transportation and Storage Program combines the former Methane Mitigation Technologies, Natural Gas Decarbonization and Hydrogen Technologies, Carbon Transport and Storage, and Advanced Storage Research and Development programs to better align resources and expertise focused on hydrocarbon infrastructure.

The Transportation and Storage Program's activities for FY 2027 are presented below:

The Transportation and Storage Program focuses on cost-effective and scalable technologies that improve efficiency, integrity, and reliability associated with the production, processing, transportation, storage, and export of domestic oil and natural gas resources and associated waste streams. This program is comprised of several sub programmatic activities, which include Natural Gas Infrastructure, Natural Gas-Hydrogen Technologies, Carbon Transport and Storage, and Advanced Storage Research and Development.

Natural Gas Infrastructure

The Program supports R&D on advanced materials; innovative sensors; and more efficient natural gas compressors, drive engines, and other infrastructure components, along with analytical technologies (including AI applications) that enable rapid detection and reduction of natural gas losses along the oil and natural gas value chain. The program also addresses utilization of natural gas that would otherwise be stranded through the development of field-deployable, modular technologies to capture and convert natural gas and natural gas liquids into high-value, readily transportable products. This research will improve the deliverability and reliability of natural gas production, transmission, distribution, storage, and export facilities. In addition, the program integrates technologies to improve supply chain resiliency and deliver safe, affordable energy products to industrial, commercial, and residential markets.

The program will pursue the following major activities in FY 2027:

- Developing technologies in advanced materials, pipeline sensors and systems, pipeline data management and computational tools, and in-pipe inspection and repair technologies.
- Developing advanced modular natural gas conversion technologies, capable of being deployed near wellheads, natural gas processing facilities, and transportation infrastructure.
- Developing, validating, and optimizing advanced monitoring technologies to detect natural gas losses from production fields, pipelines, infrastructure equipment, and both surface and subsurface storage facilities.

- Development and deployment of efficient solutions that economically reduce natural gas leakage from engine combustion slip, natural gas gathering and pressure boosting stations, storage tanks, pipeline blowdowns, subsurface natural gas storage, and other point sources.
- Development and deployment at scale of low-cost, modular and flexible upstream natural gas processing and conversion solutions to fully recover the value of natural gas liquids (NGLs), increasing the deliverability and affordability of hydrocarbon production and transportation.
- Develop new materials and separation technologies to enable efficient, low-cost treatment of sour or acidic hydrocarbon and gas streams.
- Application-specific development for pipeline materials and systems to safely deploy multi-fluid resilient transport and storage infrastructure in the United States.
- The demonstration of secure and cost-effective underground natural gas, natural gas liquids (NGLs), hydrogen, and $CO_2$ storage for EOR.
- Secure gas infrastructure development to improve efficiency within hydrocarbon networks.
- Novel product development and cost-effective management of hydrocarbon waste streams.

Natural Gas-Hydrogen Technologies

The Transportation and Storage Program will also develop technologies for the delivery of safe, reliable, and domestically derived, cost competitive hydrogen. The program will conduct research on utilizing infrastructure for high-volume hydrogen and blended fuels transport, demonstrate large-scale underground fluid energy carrier storage capabilities, and support R&D related to producing geologic hydrogen from the subsurface.

The program leverages domestic resources towards the development of technologies to produce, transport, store, and utilize cost competitive hydrogen and valorized solid carbon products. The FY 2027 Budget Request will focus on near-term R&D that emphasizes advancing technologies for:

- Low-cost hydrogen, fuels, and carbon production pathways derived from geologic and fossil energy resources.
- Resilient natural gas-hydrogen infrastructure development.
- Safe hydrogen utilization through advanced monitoring technologies within energy markets.

Programmatic activities will be conducted in support of and coordination within the Office of Hydrocarbons and Geothermal Energy and other offices in DOE in support of Administration goals.

Carbon Transport and Storage

The program will focus on the cost-effective utilization of CO2 to strengthen the U.S. energy landscape, bolstering the continued integration between potential carbon sources. Whether from industrial production or geologic hydrogen, efficient and cost-effective CO2 transport systems is a vital component to improve and expand upon Enhanced Oil Recovery (EOR) and Enhanced Gas Recovery (EGR) operations. Ongoing programs facilitate the identification and evaluation of future secondary or tertiary oil and gas field production networks. These efforts will facilitate regional carbon management team formation by allowing carbon producers, end-users, and other stakeholders to align potential needs in specific geographic areas within the U.S. This will support decision making by integrating applications in operations research, geographical information systems, pipeline infrastructure design, and geologic reservoir performance for more expansive EOR and EGR activities.

The FY 2027 Budget Request will support basins with multiple subsurface projects where knowledge gained will support enhanced oil and gas recovery activities, rapid development of capabilities to support data centers, and mining activities.

Advanced Storage Research and Development

The program will focus on advanced research and development activities. including artificial intelligence/machine learning tool and reservoir integrity and assurance. The FY 2027 Budget Request will focus on the study and use of carbon dioxide in enhancing oil and natural gas production in shale formations.

Additionally, the Budget Request includes R&D that will advance technologies targeting enhanced plume imaging/tracking, high-temporal and high-spatial resolution monitoring, improved geomechanical stress/strain characterization and measurement, high fidelity sensing, and automation and intelligent systems inclusive of AI-enabling/supporting technologies. Targeted research by national laboratories and other research institutions includes efficient utilization of oil and gas production infrastructure, intelligent monitoring systems, and developing approaches/methods for adaptive reservoir management.

**Transportation and Storage**
**($K)**

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| **Transportation and Storage** | **170,000** | **101,500** | **82,000** |

**Explanation of Changes for Transportation and Storage Program**

The FY 2027 funding decrease represents a shift in program focus for several research areas within the Transportation and Storage Program. Explanations of changes include the following:

A reduction in R&D efforts focused on basin-scale emissions reconciliation projects and other larger-scale methane emissions monitoring efforts, while expanding activities that support processing and conversion solutions to fully recover the value of natural gas liquids and technologies to enable efficient, low-cost treatment of sour gas streams.

A reduction in R&D efforts that do not emphasize enhanced recovery and reliability, increased storage potential and security, or improved hydrocarbon system resiliency and throughput. Further research focus will emphasize opportunities to employ artificial intelligence and machine learning to the benefit of the American public.

A slight funding increase for hydrogen production pathways utilizing energy resources from natural gas and petroleum systems. While some hydrogen production pathways will be rescoped or downscaled, research related to geologic hydrogen, in addition to existing blue and gray hydrogen resource characterization and development will be enhanced to demonstrate global leadership of this domestic resource opportunity.

**Office of Oil and Gas**
**Power, Fuels, and Chemicals**

## Overview

Oil and gas are critical to unleashing American energy and creating an affordable, secure, and reliable energy sector. Oil and natural gas provide power for residential and commercial sectors, including the fast-growing data center and manufacturing sectors, as well as fuel for vehicles, heat for homes, industrial goods, plastics, and other important products. The Power, Fuels, and Chemicals Program conducts R&D of technologies and solutions to enable 24/7 dispatchable advanced energy systems that provide low-cost baseload power and resilient flexible energy system services, as well as improves the flexibilities of domestic refineries to better utilize a broader base of domestic feedstocks with higher efficiency and lower cost.

The Power, Fuels, and Chemicals program includes existing subprograms in Advanced Turbines, Advanced Energy Materials, and Solid Oxide Fuel Cells (SOFC), plus a new subprogram in Refining/Processing. The FY 2027 Power, Fuels and Chemicals Budget Request is presented below:

The Power, Fuels, and Chemicals program will develop technologies that accelerate the deployment of advanced, more efficient, and highly flexible gas turbines into the marketplace so that they can be ready for the expected increase in power generation needed for data centers and other high-tech industries and manufacturing. Natural gas turbines with embedded SOFC and pressure gain combustion are two R&D areas that would enable a step change increase in efficiency.

For materials, the program will support R&D to develop novel materials capable of extremely high temperatures. The program will continue to utilize DOE's high-performance computing and AI capabilities for advanced alloy design and cost reduction.

The program will also develop technologies that will improve the efficiency and flexibility of domestic petroleum refineries, including improved technology to enable more rapid fuel switching or blending with minimal or no down time, leading to greater use of the breadth of available domestic crude sources.

The program will focus on the following activities in FY 2027:

- Develop designs and operating systems that enable advance gas turbine efficiency and operational flexibility.
- Generate technologies to optimize advanced manufacturing methods for new materials.
- Develop new harsh service materials, suitable for high temperature/pressure to enable step change efficiency advances for power production.
- Apply high performance computing and AI to develop digital twins to support fuel flexibility and switching.
- Evaluate the effectiveness of smaller, modular fuel-flexible refinery technology for supporting the domestic industries of the future.

**Power, Fuels, and Chemicals**
**($K)**

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| **Power, Fuels, and Chemicals** | **30,000** | **30,000** | **24,500** |

**Explanation of Changes for Power, Fuels, and Chemicals Program**

The proposed FY 2027 program reduces R&D efforts focused on hydrogen turbines, and expands activities related to gas turbines, including increased efficiency, extreme temperatures, materials and sensors, and simulations and artificial intelligence. The funding also includes new R&D on advanced refinery technologies.

# Office of Geothermal

## Overview

America has abundant natural geothermal resources that, if developed, will lower energy costs, reduce dependencies on foreign materials and energy sources, make our energy systems more reliable, and help to meet the Nation's surging electricity grid demand. The mission of HGEO's Office of Geothermal (OG) is to is to accelerate the discovery and development of gigawatt-scale geothermal energy; the office aims to position geothermal as a competitive domestic source for reliable baseload electricity generation and energy storage through innovative and impactful RD&D, and analysis activities. The Office will lead the HGEO's work on funding opportunities, and in-house lab research coordinated through the NETL Center of Excellence for geothermal-related efforts.

OG plays a crucial role in advancing geothermal technology towards full commercialization by systematically addressing and overcoming technical deployment barriers. Through strategic RD&D initiatives, OG fosters innovation, promotes field-based "learning-by-doing," and standardizes technical approaches. This strategy effectively de-risks emerging geothermal technologies and efficiently moves these technologies towards commercialization. OG collaborates extensively with a diverse range of partners, including the geothermal industry, U.S. National Laboratories, academic institutions, and state and local governments. These partnerships are instrumental in accelerating technological advancements, significantly reducing both development and operating costs, and ensuring the United States maintains a competitive edge in domestic and international energy markets.

Beyond the current state of geothermal energy, OG assesses non-technical barriers limiting commercialization today and actively strategizes future opportunities across geothermal use cases. This involves robust grid analysis, thorough impact and market assessments, detailed techno-economic evaluations, and other proactive efforts to streamline the permitting process and increase awareness of the numerous economic and energy security benefits that geothermal technology offers.

The OG portfolio is organized into three critical pillars that address barriers across the entire geothermal development lifecycle, including innovation-focused lab and field-scale programs designed to meet the industry's most pressing needs and facilitate rapid technological advancements: **Technology Research and Development** (R&D), **Pilots and Demonstrations**, and **Commercial Scale-Up**.

OG's organizational structure is designed to position the U.S. for rapid and full-scale deployment of geothermal energy, outlined in the following organizational goals:

- Expand and improve resource characterization and advance the most economic opportunities for development.
- Drive innovations that accelerate new geothermal development and optimization.
- Modernize and extend the life of existing geothermal production.
- Pursue methods to use and maximize the value of geothermal for storage and enhancing grid reliability.

## Highlights of the FY 2027 Budget Request

The Department's FY 2027 Request for the Office of Geothermal supports programs in research, development, demonstration, and analysis efforts that will increase performance and decrease costs that help discover, access, and develop geothermal resources across the nation. Geothermal promises firm and flexible power with significant generation potential across the U.S. The FY 2027 Request prioritizes nationwide geothermal exploration campaigns, R&D to modernize and improve efficiency of existing geothermal operations, next-

generation pilot projects, and large-scale data collection and synthesis efforts to develop unified foundational models for subsurface modeling and prediction.

**Geothermal Technologies**
**($K)**

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| Enhanced Geothermal Systems | 268,144 | 92,000 | - |
| Hydrothermal Resources | 91,623 | 41,000 | - |
| Low Temperature and Coproduced Resources | 82,456 | - | - |
| Data, Modeling, and Analysis | 45,686 | 17,000 | - |
| Pilots and Demonstrations | - | - | 92,000 |
| Technology Research and Development (R&D) | - | - | 40,000 |
| Commercial Scale-Up | - | - | 18,000 |
| **Total, Geothermal Technologies** | **487,909** | **150,000** | **150,000** |

| | Pilots and Demonstrations | Technology Research and Development (R&D) | Commercial Scale-Up | Total |
|---|---|---|---|---|
| Enhanced Geothermal Systems | 92,000 | - | - | 92,000 |
| Hydrothermal Resources | - | 40,000 | - | 40,000 |
| Low Temperature and Coproduced Resources | - | - | - | - |
| Data, Modeling, and Analysis | - | - | 18,000 | 18,000 |
| **Total, Geothermal Technologies** | **92,000** | **40,000** | **18,000** | **150,000** |

**Explanation of Change for Office of Geothermal**

**Technology Research and Development (R&D):** Focuses on exploration and characterization of the subsurface. Beyond sensing and inversion methods, this team manages subsurface accessibility and drilling R&D to increase drilling speeds and reduce material costs, including costs for wellbore construction. Additional focus areas include improving power conversion efficiency for existing plants and identifying post- or co-generation opportunities to maximize the value of produced brine or heat.
The FY 2027 request maintains focus on high impact R&D topics across Enhanced Geothermal Systems (EGS) and Hydrothermal sectors. This includes Exploration and Characterization R&D and Subsurface Accessibility R&D, which will support nationwide exploration programs and R&D to improve efficiency of power plants and reduce drilling costs. The FY 2027 budget also prioritizes Resource Maximization R&D, to include advanced methods for Rare Earth Elements and critical materials identification and extraction from geothermal brines. The requested budget will defer additional funding in Subsurface Accessibility R&D for the Technology R&D aspects of the GEODE project to future FY requests pending an evaluation of overlap between GEODE roadmaps with OG's pre-existing Technology R&D portfolio. The FY 2027 budget will also maintain the office level focus on harsh environment materials needed to improve the robustness of subsurface drilling,

stimulation, and evaluation tools to operate in high temperature and corrosive geothermal subsurface environments.

**Pilots and Demonstrations:** Leads all field-based demonstrations, utilizing hypothesis testing and learning-by-doing to move power or storage concepts from initial concepts to field-proven operations. Key priorities also include improving and field-testing fracturing techniques for EGS, refining thermal cycling protocols for Thermal Energy Storage and using modern drilling capabilities developed in the oil and gas industry to commercialize marginal hydrothermal resources. This subprogram aims to validate novel pilot concepts in new geological environments in EGS, Hydrothermal, and Energy Storage while simultaneously identifying emerging R&D needs.

The FY 2027 request looks to maintain momentum on all activity areas outlined in FY 2026. This request will continue funding for EGS greenfield demonstrations, thermal energy pilots as applicable, and field campaigns to "modernize hydrothermal" by applying modern oil and gas drilling and stimulation techniques to marginal hydrothermal resources. These interdisciplinary demonstrations cut across all of this subprogram's activities. The FY 2027 budget also defers funding for an extension of the Utah FORGE project until FY 2028, when planned long-term circulation tests and data analysis will have concluded allowing DOE to assess impacts. The requested budget will continue funding for Exploration and Characterization Activities to maintain OG's long-term focus on building understanding, through fundamental R&D, and operationally managing, through in-field monitoring, the implications of induced seismicity.

**Commercial Scale-Up:** Identifies and addresses non-technical and data-related barriers to commercial geothermal development. The team uses a variety of modeling and analysis tools to identify and enact methods to streamline permitting, bolster geothermal power and storage representation in capacity planning and cost modeling activities, and assess the value of geothermal energy within the broader U.S. energy system. Additionally, they oversee data collection and dissemination of all OG portfolio research—utilizing AI and advanced data analysis—and targets increasing awareness and acceptance of geothermal as a critical source of baseload energy.

The FY 2027 request maintains funding for the Data Modeling & Analysis activity by leveraging core national laboratory capabilities to advance value and impact-related analyses for geothermal power and storage technologies and to increase the awareness and acceptance of geothermal energy. The funding request will continue to support work to address critical geothermal project permitting challenges. This work will leverage ongoing collaborative efforts with Federal and State partners and seek to develop new partnerships with private entities. These private partners can leverage their expertise and agility to creatively address access barriers that limit permitting processing speeds. The request also seeks new funding to apply large-scale data aggregation and analysis methods. These methods, utilizing AI and ML techniques, will integrate critical datasets, including OG-funded research, into platforms suitable for advanced computational analysis and foundational AI model training.

## NETL Infrastructure

### Overview

The NETL infrastructure program supports the fixed costs of NETL's laboratory footprint in three geographic locations: Morgantown, WV; Pittsburgh, PA; and Albany, OR. Table 1 provides information on the size of each site.

The NETL Infrastructure Program comprises of the following subprograms:

(1) **High-Performance Computer (Super Computer) ($6 million)** provides funding for the lease of Joule 3, NETL's Supercomputer. The FY 2027 Budget Request includes $6 million for the continuation of a 4-year lease.
(2) **Laboratory and Sitewide Facilities ($41 million)** include repairs to existing laboratory facilities, general-purpose buildings, and sitewide infrastructure and the continued management of deferred maintenance balances. Priorities for funding are established to ensure compliance with life safety standards, critical laboratory research facilities and infrastructure, and compliance with High Performance Sustainable Building (HPSB) goals.
(3) **Safeguards and Security ($8.5 million)** provides funds to ensure protection of workers (physical and cyber), the public, the environment, facilities, and operations in performing the DOE mission.
(4) **Environmental Restoration ($2.5 million)** supports NETL's obligations to the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) across all NETL sites and one off-site location in Wyoming.

### Highlights of the FY 2027 Budget Request

The FY 2027 Budget Request for NETL Infrastructure is $58 million. The most significant component is Laboratory and Sitewide Facilities, as follows: (1) $17 million for Minor Construction Projects (MCP), prioritizing investments in infrastructure reliability and managing deferred maintenance balances; and (2) $24 million for fixed operational costs such as building and grounds maintenance, utilities, fleet management, and information technology (IT) licenses and agreements. In addition, $6 million is requested for NETL's high performance computer (HPC) lease. HPC is an essential element in more than 50% of NETL's research projects. The balance of the request is for safeguards and security, environmental compliance and remediation.

Funding supports:

- **Business Process Optimization**, reducing total cost of ownership by consolidating and modernizing IT systems;
- **Modernization of legacy infrastructure**, enabling agile, efficient operations and decreasing overall IT spend through enhanced integration;
- **Application and tools rationalization**, which directly reduces redundant expenditures and enhances consistency, leading to quantifiable efficiencies in training and support; and
- **Software License Optimization**, critically leveraging AI for service improvement and establishing foundational AI applications that yield substantial return on investment (ROI) by augmenting enterprise-wide efficiency and mission support.

This funding specifically targets both enterprise and R&D efforts with clear ROI potential, supporting the implementation of Zero Trust architectures, enhancing incident detection and response capabilities, mitigating supply chain risks, and increasing automation across IT infrastructure operations and maintenance (O&M), portfolio management, and cybersecurity risk management, all in adherence to federal guidance.

**NETL Infrastructure**
**($K)**

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| High-Performance Computer (Super Computer) | 6,000 | 6,000 | 6,000 |
| Laboratory and Sitewide Facilities | 39,000 | 40,000 | 41,000 |
| Safeguards and Security | 8,000 | 8,500 | 8,500 |
| Environmental Restoration | 2,000 | 2,500 | 2,500 |
| **Total, NETL Infrastructure** | **55,000** | **57,000** | **58,000** |

**Table 1, Comparison of Physical Footprint, Workforce, and Value of Assets by Campus and in Total, National Energy Technology Laboratory as of January 9, 2026.[1]**

| | Morgantown | Pittsburgh | Albany | Total NETL |
|---|---|---|---|---|
| Buildings | 39 | 29 | 56 | **124** |
| Sq. Ft. of Building Space (000s) | 437 | 430 | 250 | **1,117** |
| Acres | 136.0 | 57.4 | 47.4 | **240.8** |
| Assets Replacement Value | $426.5 million | $391.3 million | $289.7 million | **$1,107.5 million** |

**Explanation of Changes for NETL Infrastructure**

NETL is investing more than $100 million in critical new research facilities to enable an expansion of capabilities to be able to continue to meet the department's advancing technology mission. These facilities include a new Computational Sciences and Engineering Center and an Advanced Alloy Development Center. When these facilities come online there will be increased costs for utilities, infrastructure maintenance, and information technology capabilities. These increases are planned to be partially offset by reductions in contractor support, the result of streamlining processes and requirements. In addition, NETL has a new Albany groundwater monitoring and remediation requirement, but this will not require additional budgetary resources.

[1] Table 1 compares physical footprint and value of assets as of January 9, 2026.

## NETL Research and Operations

### Overview

NETL is an integral part of the DOE national laboratory system. There are 17 National Laboratories in the DOE laboratory system; NETL is the only government-owned, government-operated (GOGO) laboratory. NETL supports the DOE mission by addressing energy and related challenges through transformative science and technology solutions. NETL is recognized for its capabilities in applied material science, computation science, chemical and systems engineering, subsurface science, decision science, and government contract and project management.

The NETL Research and Operations Program comprises the following subprograms:

(1) **Research, Development, Demonstration, and Deployment ($50 million)** supports Federal researcher salaries and benefits, travel, personal protective equipment, and other employee costs for the NETL staff of scientists and engineers who conduct research activities for HGEO RDD&D programs. This sub-program also funds the salaries, benefits, travel, and other employee costs for the NETL staff of engineers and technical professionals who conduct project management for HGEO RDD&D programs. This sub-program also funds partnership, technology transitions, and other collaborative research activities with industry, other National Laboratories, and state and local governments as well as strategic energy analysis and research data management.

(2) **Site Operations ($20 million)** includes funding for: (a) building operations and maintenance such as non-capital repairs and routine upkeep; (b) grounds maintenance including parking lot repair, lighting, groundskeeping, snow removal, etc.; and (c) information technology operations.

(3) **Program Oversight ($10 million)** includes funding for Federal employees and contractors performing research-enabling functions such as planning and managing financial assistance activities and providing oversight of research grants and awards.

The FY 2027 Budget request for NETL Research and Operations is $80 million. The most significant component is federal salaries and benefits at $70 million, the requested full-time equivalent (FTE) level of 337. An additional $6 million is for contractor support in the areas of information technology operations, technology transitions and business outreach, research data management, and strategic energy analysis. The balance of the request funds travel, training, material, supplies, and other employee costs for the federal staff and NETL's Laboratory-Directed Research and Development (LDRD) contribution.

As part of the DOE realignment, the Critical Minerals and Materials (CMM) R&D, formerly in HGEO, has transferred to the Office of Critical Minerals and Energy Innovation (CMEI). However, NETL federal researchers, engineers and scientists will continue to work on these initiatives, and continue to be paid for through this account, with some CMEI oversight.

**NETL Research & Operations**
**($K)**

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| **Total, NETL Research & Operations** | **89,000** | **87,000** | **80,000** |

**Explanation of Changes for NETL Research and Operations**

Reductions reflect lower staffing levels, the result of the Deferred Resignation Programs and the Executive Order limiting future staffing increases. In addition, the reductions reflect a lower level of contractor support, the result of streamlining processes and requirements.

## Program Direction

### Overview

Program Direction (PD) provides funding for salaries and benefits for federal staff and associated costs to support the overall direction and execution of HGEO including oversight and administration, monitoring activities for the HGEO's RDD&D portfolio. Funding also supports NETL technical staff who perform acquisition, finance and legal functions, and federal staff for management of the laboratory. PD also funds the contractor support for budget, communications, workforce management, IT and cybersecurity, and workforce Environment, Safety, Security and Health (ESS&H) activities. Federal NETL scientific researchers and project managers are not funded by Program Direction. They are funded through the NETL Research and Operations control point.

This account also funds the following:

- Operations, federal staff, and contractor support of the **Office of Strategic Resources – Office of Global Energy Security**. The Office is responsible for carrying out DOE's responsibilities over natural gas imports and exports under the Natural Gas Act and is also responsible for analyzing and developing policy recommendations affecting US equities in the global trade for oil and natural gas. HGEO program office contributions to the DOE Office of Human Resources, General Counsel and Undersecretary staff; and
- HGEO program office contributions to the DOE Working Capital Fund (WCF), Energy IT Services (EITS) and other related expenses across the Department.

The FY 2027 Program Direction Request of $73.042 million will provide support for the projected FY 2027 average federal salaries and benefits for the requested FTE level, travel, support services and other related expenses. This increase reflects changes in the organizational structure, based on the overall DOE realignment.

## Program Direction
## ($K)

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request | FY 2027 Request vs FY 2026 Enacted | |
|---|---|---|---|---|---|
| | | | | $ | % |
| Salaries and Benefits | 26,162 | 26,162 | 28,100 | +1,938 | +7% |
| Travel | 420 | 1,100 | 1,092 | -8 | -1% |
| Support Services | 4,970 | 4,970 | 5,000 | +30 | +1% |
| Other Related Expenses | 8,548 | 7,868 | 8,850 | +982 | +12% |
| **Total, Washington Headquarters** | **40,100** | **40,100** | **43,042** | **+2,942** | **+7%** |
| Salaries and Benefits | 20,800 | 20,800 | 20,900 | +100 | - |
| Travel | 400 | 400 | 400 | - | - |
| Support Services | 5,200 | 5,200 | 5,200 | - | - |
| Other Related Expenses | 3,500 | 3,500 | 3,500 | - | - |
| **Total, National Energy Technology Laboratory** | **29,900** | **29,900** | **30,000** | **+100** | **-** |
| Salaries and Benefits | 46,962 | 46,962 | 49,000 | +2,038 | +4% |
| Travel | 820 | 1,500 | 1,492 | -8 | -1% |
| Support Services | 10,170 | 10,170 | 10,200 | +30 | +23% |
| Other Related Expenses | 12,048 | 11,368 | 12,350 | +982 | +9% |
| **Total, Program Direction** | **70,000** | **70,000** | **73,042** | **+3,042** | **+4%** |
| HQ FTEs | 141 | 132 | 164 | +32 | +24% |
| NETL FTEs | 130 | 112 | 120 | +8 | +7% |
| **Total FTEs** | **271** | **244** | **284** | **+40** | **+16%** |

**Explanation of Changes for Program Direction**

The FY 2027 funding increase represents additional FTEs, as well as inflationary and cost of living increases.

## University Training, Research, and Recruitment

### Overview

The University Training, Research, and Recruitment (UTRR) program enables HGEO to execute workforce development, training, education, and recruitment programs to prepare the next generation of individuals to enter the energy workforce. HGEO will accomplish this objective by funding foundational R&D and training programs at U.S. institutions of higher education (IHEs) (e.g., colleges, universities and trade and vocational schools). Specifically, the University Training and Research (UTR) program focuses on introducing students to research topics pursued in support of the DOE mission through HGEO and NETL related activities, enhancing the research capacities at U.S. colleges and universities, and facilitating the enhancement and creation of training programs to prepare individuals for jobs in the coal, oil and gas, and geothermal energy industries.

These activities are authorized under PL 109-58, Energy Policy Act of 2005, as an extension of the University Coal Research (UCR) program that was incepted in 1979 under DOE authority to "make contracts, grants, and cooperative agreements for the conduct of basic or applied scientific research at nonprofit institutions of higher education" under Public Law 95-224, as amended by 97-258.

A portion of appropriated funds are allocated in accordance with Section 1105 of the Energy Policy Act of 2005 which amended the Department of Energy Science Education Enhancement Act (42 U.S.C. § 7381) and states, "The Secretary shall require the director of each National Laboratory, and may require the head of any science facility, to increase the participation of historically Black colleges or universities, Hispanic-serving institutions, or tribal colleges in any activity that increases the capacity of the historically Black colleges or universities, Hispanic-serving institutions, or tribal colleges to train personnel in science or engineering."

The funding also supports the execution of Special Recruitment initiatives, including the Mickey Leland Energy Fellowship (MLEF) Program and participation in other DOE educational programs in support of the HGEO mission. HGEO Special Recruitment initiatives educate students on the HGEO and DOE missions, expose them to the vast R&D performed within the Department, and provide experience and guidance that supports preparation for continued education and entrance into the workforce.

The UTRR funding facilitates education and training of the next generation of scientists, engineers, and skilled technicians and supports novel, early-stage R&D within the DOE to equip participants with cutting-edge, translatable skillsets that will enable them to enter the U.S. workforce and contribute to the greater economy.

The UTRR programs focus on opportunities to address national workforce and education priorities. They include funding R&D projects that access technical needs and provide training in HGEO mission priority areas. The programs enable HGEO to foster partnerships among IHEs for research and education; improve institutional capacity for competitive research; and broaden the coal, oil and gas, and geothermal energy workforce. The program also seeks to expand research and education opportunities at institutions that are non-traditional HGEO partners such as trade and vocational schools, historically black colleges and universities (HBCUs) and tribal colleges and universities (TCUs). The MLEF Program offers undergraduate and graduate students majoring in STEM disciplines opportunities to learn about programs, policies, and R&D. Students learn about the multiple challenges and opportunities in providing affordable, reliable and secure energy for future generations. Students perform research under the mentorship of DOE scientists and engineers and gain work experience to further their educational careers.

**Highlights of the FY 2027 Budget Request**

The focus for UTRR in FY 2027 will concentrate on:

- Funding new competitive funding opportunities via notice of funding opportunity (NOFO) or partnership agreement (PIA) that will support building R&D capacity in HGEO mission-related areas; fostering the completion of research in STEM disciplines that advance the HGEO mission; supporting educational fellowship opportunities within HGEO; and enhancing and establishing programs that foster workforce development and in HGEO mission-related fields.
- Recruiting and selecting highly qualified students at the undergraduate and graduate levels in STEM majors to participate in HGEO and DOE educational programs, including MLEF and other student programs. All participants in the MLEF or other DOE educational programs will complete challenging assignments supporting the DOE mission through hands-on R&D projects under the mentorship of a scientist, researcher, or program official.

**University Training, Research, and Recruitment**
**($K)**

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| **Total, University Training, Research, and Recruitment** | **12,000** | **7,000** | **8,000** |

**Explanation of Changes**

Funding will increase the number and/or size of awards to IHEs under the UTR program in support of R&D and workforce development relating to hydrocarbons and geothermal energy, resulting in the education of more students. The additional funds will work to support a new initiative within the UTR program that supports trade and technical school students in addition to traditional universities.

**DEPARTMENT OF ENERGY**
**Funding by Site Detail**
TAS_NEW_HGE - Hydrocarbons and Geothermal Energy (HGE) - FY 2027
(Dollars in Thousands)

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| **Ames Laboratory** | | | |
| Power and Capture (formerly Advanced Energy Systems) | 306 | 238 | 168 |
| Office of Coal (formerly Coal and Carbon Utilization) | 306 | 238 | 168 |
| Power, Fuels, and Chemicals (formerly Advanced Turbines) | 141 | 141 | 115 |
| Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals) | 141 | 141 | 115 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 447 | 379 | 283 |
| **Total Ames Laboratory** | **447** | **379** | **283** |
| **Argonne National Laboratory** | | | |
| Power and Capture (formerly Advanced Energy Systems) | 1,960 | 1,522 | 1,077 |
| Office of Coal (formerly Coal and Carbon Utilization) | 1,960 | 1,522 | 1,077 |
| Power, Fuels, and Chemicals (formerly Advanced Turbines) | 3,206 | 3,206 | 2,618 |
| Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals) | 3,206 | 3,206 | 2,618 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 5,166 | 4,728 | 3,695 |
| NETL Research and Operations (HGE) | 48 | 47 | 43 |
| **Total Argonne National Laboratory** | **5,214** | **4,775** | **3,738** |
| **Brookhaven National Laboratory** | | | |
| Geothermal Energy (HGE) | 171 | 53 | 53 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 171 | 53 | 53 |
| **Total Brookhaven National Laboratory** | **171** | **53** | **53** |
| **Fermi National Accelerator Laboratory** | | | |
| Power and Capture (formerly Advanced Energy Systems) | 74 | 57 | 41 |
| Office of Coal (formerly Coal and Carbon Utilization) | 74 | 57 | 41 |
| Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies) | 1,363 | 814 | 658 |
| Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals) | 1,363 | 814 | 658 |
| Geothermal Energy (HGE) | 64 | 20 | 20 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 1,501 | 891 | 719 |
| **Total Fermi National Accelerator Laboratory** | **1,501** | **891** | **719** |
| **Golden Field Office** | | | |
| Geothermal Energy (HGE) | 273,629 | 84,123 | 84,123 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 273,629 | 84,123 | 84,123 |
| **Total Golden Field Office** | **273,629** | **84,123** | **84,123** |

**DEPARTMENT OF ENERGY**
**Funding by Site Detail**
TAS_NEW_HGE - Hydrocarbons and Geothermal Energy (HGE) - FY 2027
(Dollars in Thousands)

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| **Idaho National Laboratory** | | | |
| Power and Capture (formerly Advanced Energy Systems) | 2,817 | 2,187 | 1,549 |
| Office of Coal (formerly Coal and Carbon Utilization) | 2,817 | 2,187 | 1,549 |
| Geothermal Energy (HGE) | 589 | 181 | 181 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 3,406 | 2,368 | 1,730 |
| **Total Idaho National Laboratory** | **3,406** | **2,368** | **1,730** |
| **Lawrence Berkeley National Laboratory** | | | |
| Power and Capture (formerly Advanced Energy Systems) | 1,868 | 1,450 | 1,027 |
| Office of Coal (formerly Coal and Carbon Utilization) | 1,868 | 1,450 | 1,027 |
| Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies) | 2,474 | 1,477 | 1,193 |
| Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals) | 2,474 | 1,477 | 1,193 |
| Geothermal Energy (HGE) | 31,183 | 9,587 | 9,587 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 35,525 | 12,514 | 11,807 |
| NETL Research and Operations (HGE) | 450 | 440 | 404 |
| **Total Lawrence Berkeley National Laboratory** | **35,975** | **12,954** | **12,211** |
| **Lawrence Livermore National Laboratory** | | | |
| Power and Capture (formerly Advanced Energy Systems) | 1,041 | 808 | 572 |
| Office of Coal (formerly Coal and Carbon Utilization) | 1,041 | 808 | 572 |
| Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies) | 8,411 | 5,022 | 4,057 |
| Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals) | 8,411 | 5,022 | 4,057 |
| Geothermal Energy (HGE) | 171 | 53 | 53 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 9,623 | 5,883 | 4,682 |
| **Total Lawrence Livermore National Laboratory** | **9,623** | **5,883** | **4,682** |
| **Los Alamos National Laboratory** | | | |
| Power and Capture (formerly Advanced Energy Systems) | 1,261 | 980 | 694 |
| Conversion and Products (formerly Conversion and Value-Added Products) | 1,433 | 2,593 | 764 |
| Office of Coal (formerly Coal and Carbon Utilization) | 2,694 | 3,573 | 1,458 |
| Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies) | 7,182 | 4,288 | 3,465 |
| Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals) | 7,182 | 4,288 | 3,465 |
| Geothermal Energy (HGE) | 18,012 | 5,537 | 5,537 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 27,888 | 13,398 | 10,460 |

**DEPARTMENT OF ENERGY**
**Funding by Site Detail**
TAS_NEW_HGE - Hydrocarbons and Geothermal Energy (HGE) - FY 2027
(Dollars in Thousands)

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| **Total Los Alamos National Laboratory** | **27,888** | **13,398** | **10,460** |
| | | | |
| **National Energy Technology Lab** | | | |
| Power and Capture (formerly Advanced Energy Systems) | 127,924 | 99,320 | 70,318 |
| Mining and Processing (formerly Mineral Production and Processing Technologies) | 13,903 | 6,952 | 29,792 |
| Conversion and Products (formerly Conversion and Value-Added Products) | 30,634 | 55,432 | 16,338 |
| Office of Coal (formerly Coal and Carbon Utilization) | 172,461 | 161,704 | 116,448 |
| Production Technologies (formerly Advanced Production Technologies) | 75,001 | 51,243 | 50,311 |
| Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies) | 128,908 | 76,966 | 62,179 |
| Power, Fuels, and Chemicals (formerly Advanced Turbines) | 24,097 | 24,097 | 19,679 |
| Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals) | 228,006 | 152,306 | 132,169 |
| Geothermal Energy (HGE) | 1,165 | 358 | 358 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 401,632 | 314,368 | 248,975 |
| University Training, Research, and Recruitment | 158 | 92 | 105 |
| Program Direction - Hydrocarbons and Geothermal Energy | 27,077 | 27,077 | 28,254 |
| NETL Infrastructure (HGE) | 49,577 | 51,380 | 52,281 |
| NETL Research and Operations (HGE) | 85,677 | 83,751 | 77,013 |
| NETL Interagency Working Group | 4,319 | 2,160 | 0 |
| **Total National Energy Technology Lab** | **568,440** | **478,828** | **406,628** |
| | | | |
| **National Laboratory of the Rockies** | | | |
| Power and Capture (formerly Advanced Energy Systems) | 3,062 | 2,377 | 1,683 |
| Conversion and Products (formerly Conversion and Value-Added Products) | 1,588 | 2,874 | 847 |
| Office of Coal (formerly Coal and Carbon Utilization) | 4,650 | 5,251 | 2,530 |
| Geothermal Energy (HGE) | 32,907 | 10,117 | 10,117 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 37,557 | 15,368 | 12,647 |
| **Total National Laboratory of the Rockies** | **37,557** | **15,368** | **12,647** |
| | | | |
| **Nevada National Security Site** | | | |
| NETL Infrastructure (HGE) | 25 | 25 | 26 |
| **Total Nevada National Security Site** | **25** | **25** | **26** |
| | | | |
| **Oak Ridge Institute for Science and Education** | | | |
| Power and Capture (formerly Advanced Energy Systems) | 2,378 | 1,846 | 1,307 |

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| Conversion and Products (formerly Conversion and Value-Added Products) | 2,840 | 5,140 | 1,515 |
| Office of Coal (formerly Coal and Carbon Utilization) | 5,218 | 6,986 | 2,822 |
| Production Technologies (formerly Advanced Production Technologies) | 3,263 | 2,229 | 2,189 |
| Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies) | 2,988 | 1,784 | 1,441 |
| Power, Fuels, and Chemicals (formerly Advanced Turbines) | 393 | 393 | 321 |
| Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals) | 6,644 | 4,406 | 3,951 |
| Geothermal Energy (HGE) | 1,515 | 466 | 466 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 13,377 | 11,858 | 7,239 |
| University Training, Research, and Recruitment | 852 | 497 | 568 |
| **Total Oak Ridge Institute for Science and Education** | **14,229** | **12,355** | **7,807** |
| | | | |
| **Oak Ridge National Laboratory** | | | |
| Power and Capture (formerly Advanced Energy Systems) | 4,311 | 3,347 | 2,370 |
| Conversion and Products (formerly Conversion and Value-Added Products) | 6,009 | 10,874 | 3,205 |
| Office of Coal (formerly Coal and Carbon Utilization) | 10,320 | 14,221 | 5,575 |
| Power, Fuels, and Chemicals (formerly Advanced Turbines) | 1,550 | 1,550 | 1,266 |
| Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals) | 1,550 | 1,550 | 1,266 |
| Geothermal Energy (HGE) | 4,067 | 1,250 | 1,250 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 15,937 | 17,021 | 8,091 |
| Program Direction - Hydrocarbons and Geothermal Energy | 18 | 18 | 19 |
| NETL Research and Operations (HGE) | 5 | 5 | 5 |
| **Total Oak Ridge National Laboratory** | **15,960** | **17,044** | **8,115** |
| | | | |
| **Pacific Northwest National Laboratory** | | | |
| Power and Capture (formerly Advanced Energy Systems) | 772 | 599 | 424 |
| Conversion and Products (formerly Conversion and Value-Added Products) | 2,074 | 3,752 | 1,106 |
| Office of Coal (formerly Coal and Carbon Utilization) | 2,846 | 4,351 | 1,530 |
| Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies) | 5,690 | 3,397 | 2,744 |
| Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals) | 5,690 | 3,397 | 2,744 |
| Geothermal Energy (HGE) | 4,217 | 1,296 | 1,296 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 12,753 | 9,044 | 5,570 |
| **Total Pacific Northwest National Laboratory** | **12,753** | **9,044** | **5,570** |

**DEPARTMENT OF ENERGY**
**Funding by Site Detail**
TAS_NEW_HGE - Hydrocarbons and Geothermal Energy (HGE) - FY 2027
(Dollars in Thousands)

| | FY 2025 Enacted | FY 2026 Enacted | FY 2027 Request |
|---|---|---|---|
| **Sandia National Laboratories** | | | |
| Power and Capture (formerly Advanced Energy Systems) | 1,561 | 1,212 | 858 |
| Conversion and Products (formerly Conversion and Value-Added Products) | 679 | 1,228 | 362 |
| Office of Coal (formerly Coal and Carbon Utilization) | 2,240 | 2,440 | 1,220 |
| Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies) | 7,421 | 4,431 | 3,580 |
| Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals) | 7,421 | 4,431 | 3,580 |
| Geothermal Energy (HGE) | 10,568 | 3,249 | 3,249 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 20,229 | 10,120 | 8,049 |
| **Total Sandia National Laboratories** | **20,229** | **10,120** | **8,049** |
| | | | |
| **Washington Headquarters** | | | |
| Power and Capture (formerly Advanced Energy Systems) | 11,665 | 9,057 | 6,412 |
| Mining and Processing (formerly Mineral Production and Processing Technologies) | 97 | 48 | 208 |
| Conversion and Products (formerly Conversion and Value-Added Products) | 7,243 | 13,107 | 3,863 |
| Office of Coal (formerly Coal and Carbon Utilization) | 19,005 | 22,212 | 10,483 |
| Production Technologies (formerly Advanced Production Technologies) | 2,236 | 1,528 | 1,500 |
| Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies) | 5,563 | 3,321 | 2,683 |
| Power, Fuels, and Chemicals (formerly Advanced Turbines) | 613 | 613 | 501 |
| Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals) | 8,412 | 5,462 | 4,684 |
| Geothermal Energy (HGE) | 109,651 | 33,710 | 33,710 |
| Subsurface Energy (Coal + Oil and Gas + Geothermal) | 137,068 | 61,384 | 48,877 |
| University Training, Research, and Recruitment | 10,990 | 6,411 | 7,327 |
| Program Direction - Hydrocarbons and Geothermal Energy | 42,905 | 42,905 | 44,769 |
| NETL Infrastructure (HGE) | 5,398 | 5,595 | 5,693 |
| NETL Research and Operations (HGE) | 2,820 | 2,757 | 2,535 |
| NETL Interagency Working Group | 681 | 340 | 0 |
| **Total Washington Headquarters** | **199,862** | **119,392** | **109,201** |
| | | | |
| **Total Funding by Site for TAS_NEW_HGE - Hydrocarbons and Geothermal Energy (HGE)** | **1,226,909** | **787,000** | **676,042** |