
Baseload Power

**Baseload Power
(\$K)**

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
N/A	N/A	3,500,000	+3,500,000

Overview

The Budget requests \$3.5 billion to preserve approximately 9 GW and add approximately 9-13 GW of firm baseload power. This investment will expand our domestic energy supply and lower prices for Americans. Program funding for this effort will be derived from unobligated, repurposed Infrastructure Investment and Jobs Act balances and is not part of DOE’s annual discretionary funding topline.

The United States has abundant firm, dispatchable resources such as coal, natural gas, geothermal, nuclear and hydropower. However, the accelerated retirement of existing generation capacity and the insufficient pace of firm, dispatchable generation additions will result in the Nation’s power grid being unable to meet projected demand for manufacturing, re-industrialization, and data centers driving artificial intelligence innovation. Currently, 104 GW of firm capacity is set for retirement by 2030. Projections indicate this capacity will be replaced by 209 GW of new generation by 2030; however, only 22 GW of this would be from firm baseload generation sources¹. DOE has conducted numerous studies detailing how generation retirements and less dependable replacement generation is inconsistent with winning the AI race and ensuring affordable energy for all Americans. Sustaining and enhancing baseload power generation, including the construction of new facilities and pipelines, is critical to increase capacity for electricity generation, infrastructure upgrades and equipment. Overall strengthening of grid reliability (including cybersecurity protections) is critical for reducing the cost of electricity for American families.

On April 8, 2025, President Trump issued Executive Order 14262, "Strengthening the Reliability and Security of the United States Electric Grid." EO 14262 builds on EO 14156, "Declaring a National Emergency (Jan. 20, 2025)," stating that a precariously inadequate and intermittent energy supply and increasingly unreliable grid will require swift action. The integrity and expansion of our Nation’s energy infrastructure, from coast to coast, is an immediate and pressing priority for the protection of the United States’ national and economic security. It is imperative that the Federal government puts the physical and economic wellbeing of the American people first.²

This new initiative will draw across the resources of multiple DOE offices, including Hydrocarbons & Geothermal Energy; Nuclear Energy; Electricity; Critical Minerals & Energy Innovation; and Cybersecurity, Energy Security & Emergency Response.

¹ Report on Resource Adequacy Report Evaluating the Reliability and Security of the United States Electric Grid, U.S. Department of Energy, July 7, 2025

² [Declaring a National Energy Emergency – The White House](https://www.whitehouse.gov/presidential-actions/2025/01/declaring-a-national-energy-emergency/): <https://www.whitehouse.gov/presidential-actions/2025/01/declaring-a-national-energy-emergency/>

**Baseload Power
Funding by Program Activity (\$K)**

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				\$	%
Coal, Oil & Gas, and Geothermal Power Activities	-	-	1,940,000	+1,940,000	N/A
Nuclear Power Activities	-	-	300,000	+300,000	N/A
Cybersecurity Activities	-	-	10,000	+10,000	N/A
Grid and Electric Power Activities	-	-	750,000	+750,000	N/A
Hydropower Activities	-	-	500,000	+500,000	N/A
Total, Baseload Power¹	-	-	3,500,000	+3,500,000	N/A

Highlights of the FY 2027 Request

Coal, Oil & Gas, and Geothermal Power Activities

Coal- and natural gas-fired power plants remain crucial baseload generators due to their ability to provide continuous, reliable, and dispatchable electricity, which is essential for grid stability and meeting consistent demand, particularly when renewable energy sources are unavailable. These plants operate steadily year-round and contribute to grid stability by maintaining voltage and frequency levels, thereby preventing outages, and have historically demonstrated their reliability during extreme weather events, such as Winter Storm Fern in January 2026, by compensating for shortfalls from other energy sources. Their output is unaffected by seasonal or weather changes, allowing them to quickly increase generation during periods of high demand caused by cold snaps or heat waves. Economically, their continuous operation makes them a cost-effective option for meeting baseline demand, and ongoing technological advancements enable continued efficiency gains. In essence, coal and natural gas-fired power plants continue to be a vital component of the U.S. power system, ensuring reliable baseload supply through uninterrupted, weather-independent, and dispatchable generation.

Geothermal energy is an essential baseload power source due to its continuous reliability, high-capacity factor, minimal land use, long-term sustainability, and flexible generation, operating at over 90% capacity. Geothermal plants have a small land footprint while offering a high energy yield. They draw on the Earth's nearly limitless internal heat, with infrastructure lasting 20-50 years. Geothermal plants are also dispatchable, meaning they can be ramped up or down to meet fluctuating demand.

The FY 2027 Budget Request would preserve 4 GW and add 2 GW of firm coal-fired baseload and preserve 5 GW and add 3 GW through natural gas plant and pipeline infrastructure upgrades to increase efficiency and harden the fuel sources for generation. The work may include but is not limited to upgrading existing coal power generation facilities, adding fuel storage near critical power generation facilities, expanding natural gas pipeline infrastructure, and adding heat recovery systems to simple cycle thermal units. Funding would also repower geothermal capacity at existing sites by installing binary or flash units and by drilling new wells or reworking existing geothermal wells to increase fluid flow at underutilized reservoirs can add about 0.1 to 0.2 GW while using existing infrastructure and grid interconnections.

¹ The FY 2027 Request for Baseload Power repurposes prior year unobligated IIJA funding.

Nuclear Power Activities

Nuclear reactors are highly reliable, operating at over 90% capacity for extended periods between refueling, making them ideal for meeting consistent baseline energy. Nuclear plants contribute significantly to grid stability by providing a constant, stable output that helps maintain grid frequency and voltage, which is crucial as more variable renewable energy sources are integrated. Innovations like Small Modular Reactors and Generation IV reactors offer enhanced scalability, safety, and efficiency, allowing nuclear power to adapt to increasing energy demands and integrate with various energy systems.

The FY 2027 Budget Request would support nuclear energy and the nuclear energy supply chain with equipment upgrades, plant efficiency, and fuel performance improvements to bolster the energy grid with 0.5-0.75 GW. This work may include but is not limited to upgrades at existing facilities, improved fuels, and digital solutions to improve the management and operation of facilities.

Grid and Electric Power Activities

New transmission lines can take 5–15 years to build, with long permitting and environmental delays. Reconductoring upgrades existing lines in approximately 18–36 months, often at less than half the cost of new builds because it reuses towers, rights-of-way, and avoids new environmental clearances. This speed is critical for baseload projects, which need stable, long-term grid access. Reconductoring is the process of replacing existing transmission lines with newer, high-capacity materials, and offers a rapid and economical method to expand grid capacity, thereby allowing more baseload generation to reach load centers and deferring the need for costly new infrastructure. This approach significantly shortens project timelines, primarily by reusing existing infrastructure and avoiding extensive permitting and environmental hurdles.

Reconductoring alleviates grid congestion, which can otherwise force baseload plants to operate at higher costs or reduce output. The use of stronger, lighter, and less-sagging advanced conductors also enhances grid resilience, improves safety, and mitigates wildfire risks, which is crucial for continuous baseload operation and extreme weather resistance. Efficient expansion of grid capacity through reconductoring is particularly vital for supporting the growing demands of electrification and data centers, offering a swift solution without the lengthy delays associated with new transmission projects.

The FY 2027 Budget Request would reconduct existing transmission lines with advanced conductors to unlock approximately 3–6 GW of incremental transfer capacity on constrained corridors. A second round of the Speed to Power through Accelerated Reconductoring and other Key Advanced Transmission Technology Upgrades (SPARK) funding opportunity is planned to catalyze electricity investments to meet electricity demand growth and resource adequacy, while reducing costs for American households and businesses. This will continue the momentum building from the first SPARK round, announced in March 2026, to invest in reconductoring efforts to increase the power-carrying capability of existing transmission corridors. SPARK round two will continue prioritizing reconductoring projects that can be implemented quickly to accelerate the delivery of baseload generation to meet the rising demand for affordable, reliable, and secure energy.

Cybersecurity Activities

Cybersecurity for baseload power will focus on the targeted application of cybersecurity principles. Bolstering baseload power without ensuring its resilience introduces significant downstream risks, which can be proactively mitigated with modest upfront investment in dedicated testing. DOE identifies and addresses vulnerabilities through rigorous testing and comprehensive risk analysis. Therefore, funding for activity would be specifically allocated to testing components developed or deployed to support expanded baseload power. These components must be tested for resilience to cyber attacks, a process effectively carried out by the established CyTRICS program.

Hydropower Activities

Hydropower is a crucial baseload electricity source due to its reliability and renewability, providing a steady and continuous power supply that meets constant demand. Hydropower facilities offer significant firm capacity, ensuring a stable supply even during periods of peak demand. Economically, hydropower plants have low operating costs and long lifespans once constructed, leading to stable electricity prices over many decades. Furthermore, by generating power domestically, hydropower enhances energy security and can quickly ramp up output to provide critical backup during disruptions. Hydropower is also highly flexible, with units able to start up and reach full load in minutes, making them more responsive than most other energy sources for meeting peak demands.

The domestic hydropower fleet has an average age of 65 years, making modernization and rehabilitation essential to maximizing potential and ensuring reliability. Federal hydropower facilities account for more than 40% of U.S. hydropower generation capacity and are characterized by large-scale units when compared to the private sector fleet. Directing federal resources toward the modernization of federal hydropower assets will not only rehabilitate the existing fleet, ensuring we maintain the over 40 GW of essential baseload hydropower generation these facilities already provide, but also deliver opportunities for permanent increases in generation capacity (uprates) through system or equipment modifications.

The FY 2027 Budget Request would uprate 12–15 federal hydropower projects, adding 0.5–1.6 GW of new firm capacity to the grid. The Office of Critical Minerals & Energy Innovation would accomplish this by working with federal partners who own and operate federal hydropower facilities—U.S. Army Corp of Engineers, U.S. Bureau of Reclamation, and Tennessee Valley Authority—to identify and select projects that include rewinds, turbine replacements, and unit additions at conclusion of replacement/renewal that would result in the greatest capacity increases.

Activities and Explanation of Changes (\$K)

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Baseload Power	3,500,000	+3,500,000
No funding enacted.	The Request will support an investment to preserve 9 GW and add 9-13 GW of firm baseload power, such as coal, natural gas, geothermal, nuclear, and hydropower, to counter the projected retirement of 104 GW of firm capacity by 2030 and ensure grid reliability for future demand.	Funding will draw across the resources of multiple DOE offices, including Hydrocarbons & Geothermal Energy; Nuclear Energy; Electricity; Critical Minerals & Energy Innovation; and Cybersecurity, Energy Security & Emergency Response.

DEPARTMENT OF ENERGY
Funding by Site Detail
TAS_NEW_BP - Baseload Power - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Undesignated LPI			
Baseload Power	0	0	3,500,000
Total Undesignated LPI	0	0	3,500,000
Total Funding by Site for TAS_NEW_BP - Baseload Power	0	0	3,500,000