Grid Deployment Office
Proposed Appropriation Language

For Department of Energy expenses including the purchase, construction, and acquisition of plant and capital equipment, and other expenses necessary for grid deployment activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion, $90,221,000, to remain available until expended: Provided, That of such amount, $5,521,000 shall be available until September 30, 2024, for program direction.

Public Law Authorizations

- Public Law 95–91, "Department of Energy Organization Act", 1977
- Public Law 109-58, "Energy Policy Act of 2005"
- Public Law 110-140, "Energy Independence and Security Act, 2007"
- Public Law 114-94, "Fixing America's Surface Transportation Act," 2015
- Public Law 116-260, Division Z, "Energy Act of 2020"
- Public Law 117-58, Division D, "Infrastructure Investment and Jobs Act," 2021

Grid Deployment Office
($K)

FY 2021 Enacted	FY 2021 Enacted (Comparable)[a]	FY 2022 Enacted Annualized CR[b]	FY 2022 CR (Comparable)[a]	FY 2023 Request
0	10,000	0	10,000	90,221

Overview

The Grid Deployment Office (GDO) serves as the catalyst for the development of new and upgraded high-capacity electric transmission lines nationwide and the deployment of transmission and distribution technologies to improve the resilience of our Nation's electric infrastructure. A robust transmission system is the backbone of the Nation's economic, energy, and national security and a strong distribution system is critical for consumer resilience. To combat climate change, massive deployment of renewable energy and build out of transmission infrastructure is necessary for 100% clean electricity by 2035 and net-zero emissions economy-wide by 2050. GDO works in strong partnership with energy sector stakeholders on a variety of grid initiatives to achieve a clean, reliable, resilient, and equitable grid. Within the Department, GDO takes a holistic view of the electricity system by closely collaborating with the Offices of Electricity, Energy Efficiency and Renewable Energy, Clean Energy Demonstrations, Cybersecurity Energy Security and Emergency Response, Power Marketing Administrations, and other relevant DOE offices.

GDO fully utilizes its unique tools and authorities for coordination, planning, financing, and permitting to drive transmission investment. These tools and authorities are critical to overcoming transmission challenges and addressing opportunities including, but not limited to:

- Insufficient transmission capacity—especially transmission that facilitates transfer of power across regions
- Increasingly vulnerable aging and poorly maintained transmission infrastructure
- Energy supply disruptions due to physical and cyber-attacks or climate-induced extreme weather
- Long permitting and review times for transmission projects
- Transmission interconnection-specific challenges, such as with offshore wind
- Cost allocation issues
- Integration of grid-scale renewable energy resources
- Increasing electrification of transportation and other new and emerging sectors
- Implications of energy interdependencies to improve the alignment and integration of generation, distribution, and transmission planning, with appropriate consideration for flexibility-providing resources including energy storage
- Climate and extreme weather impacts to infrastructure investments
- Load growth and infrastructure needs for electric vehicle deployments
- Market failures for grid investments
- Affordability, evolving customer expectations and behaviors, electricity access, and equity issues, all with a focus on energy justice

Investments in the distribution system must accompany transmission deployment to modernize, harden, and expand the grid. GDO provides technical assistance to inform the formulation and implementation of policies, programs, and strategies for electricity system planning, design, and operation for all levels of a decarbonized grid. In addition, GDO will carry out the provisions provided from the Infrastructure Investment and Jobs Act (IIJA)/Bipartisan Infrastructure Legislation (BIL).

[a] The FY 2023 Budget Request to Congress proposes to split the Electricity appropriation account into two accounts: Electricity and Grid Deployment Office (GDO). To allow an apples-to-apples comparison with the FY 2023 request, the comparable amounts for GDO in FY 2021 and FY 2022 include all funding ($7,000,000) from OE's Transmission Permitting and Technical Assistance program and $3,000,000 from OE's Program Direction funding, equivalent to what would have been in GDO had the proposed structure been in place in FY 2021 and FY 2022.
[b] FY 2022 amounts shown reflect the P.L. 117–95 continuing resolution level through March 15, 2022, annualized to a full year.

Through these lines of effort, GDO will make the U.S. power grid more resilient to the impacts of climate change, increase access to affordable and reliable clean energy, and create American jobs across industry sectors.

Within the Request, GDO funds activities that supports 4 key priorities:

- Coordination – early, frequent, and collaborative engagement with government entities, including States, American Indian Tribes, and Alaska Natives, and other stakeholders throughout the process of evaluating needed transmission and distribution infrastructure to meet energy goals and deploying the Department's tools and authorities to accelerate the infrastructure deployment, integrating energy justice principles.
- Planning – modernize distribution and transmission planning processes to drive the development of highest-need grid projects that provide largest long-term benefits to consumers.
- Financing – deploy BIL authorities and coordinate existing financial tools within the Department to help accelerate interregional transmission builds
- Permitting – coordinate with States and Federal permitting agencies to help facilitate and streamline siting and permitting processes.

Grid Modernization Initiative and Grid Modernization Laboratory Consortium: The Grid Modernization Initiative (GMI) works across the U.S. Department of Energy (DOE) to create the modern grid of the future. The Grid Modernization Laboratory Consortium (GMLC) is a crosscutting strategic partnership between DOE and the national laboratories to bring together leading experts, technologies, and resources to collaborate on the goal of modernizing the Nation's grid. GDO activities will support the GMI and GMLC.

Highlights and Major Changes in the FY 2023 Budget Request

Grid Planning and Development ($16,200,000; +$16,200,000) accelerates the planning and development of transmission infrastructure to achieve a clean, reliable, resilient, and equitable grid. In FY 2023, the Request supports the National Transmission Planning Study, a long-term transmission planning analysis done in concert with the industry to identify transmission that will provide broad-scale benefits to electric customers, inform regional and interregional transmission planning processes, and identify interregional and national strategies to accelerate decarbonization while maintaining system reliability and resilience.

Grid Technical Assistance ($29,500,000; +$22,500,000) provides data, tools, analyses, and other solutions to address the challenges and opportunities driven and impacted by the modernization of the North American grid. In FY 2023, the Request greatly increases grid technical assistance activities, focusing on transmission, energy justice, and rural electric utilities, enabling stakeholders to make catalyzing electricity system decisions in support of Federal and State clean energy goals.

Wholesale Electricity Market Technical Assistance and Grants ($19,000,000; +$19,000,000) provides technical assistance to States and regions to establish and improve centrally organized market components and bilateral market arrangements to ensure a clean, reliable, resilient, and equitable grid. In FY 2023, the program will provide grants to investigate market improvements, specifically to evaluate wholesale market opportunities such as expansion of energy imbalance markets.

Interregional and Offshore Transmission Planning ($20,000,000; +$20,000,000) addresses the development of electricity transmission and offshore wind transmission planning through convening relevant stakeholders and conducting planning, modeling, and analysis. The Request focuses on transmission planning and financial mechanisms that help identify forward-looking transmission development for offshore wind integration on the Atlantic coast and other locations.

FY 2021 Key Accomplishments

Presidential Permits: Led the review and consultation for two transmission Presidential permits resulting in issuance of both permits. These two projects culminated in the potential for adding nearly 500 miles of transmission line (over 60% underground) and 2,450 megawatt of electric transmission capacity, reducing carbon dioxide emissions by 7.5 million metric tons annually.

Regulatory And Permitting Information Desktop (RAPID) Toolkit: Expanded the RAPID Toolkit to include information on Clean Air Act (CAA) compliance for bulk transmission project development in all 50 States. The Toolkit facilitates communication between project developers, permitting agencies at all jurisdiction levels, and project stakeholders—

including the public. The expansion will enhance understanding of CAA permitting processes and compliance for constructing electric transmission facilities in the United States.

Emergency Orders Issued Pursuant to Section 202(c) of the Federal Power Act:[a] Led the development and authorization for two orders for emergency authorizations to allow for excess generation to be utilized in response to grid emergencies occurring in Texas in February and California in September. This helped keep the electricity flowing to many homes and businesses during extreme weather events.

[a] 16 U.S.C. 824a(c)

Grid Deployment Office
Funding by Congressional Control ($K)

	FY 2021 Enacted	FY 2021 Enacted (Comparable)[a]	FY 2022 Enacted Annualized CR[b]	FY 2022 CR (Comparable)[a]	FY 2023 Request	FY 2023 Request vs FY 2021 Comp. ($)	FY 2023 Request vs FY 2021 Comp. (%)
Grid Planning and Development	0	0	–	0	16,200	+16,200	N/A
Grid Technical Assistance	0	7,000	–	7,000	29,500	+22,500	+321.4%
Wholesale Electricity Market Technical Assistance and Grants	0	0	–	0	19,000	+19,000	N/A
Interregional and Offshore Transmission Planning	0	0	–	0	20,000	+20,000	N/A
Program Direction	0	3,000	–	3,000	5,521	+2,521	+84.0%
Total, Grid Deployment Office	**0**	**10,000**	**0**	**10,000**	**90,221**	**+80,221**	**+802.2%**
Federal Full Time Equivalent Employees (FTEs)	**0**	**7**	**–**	**–**	**17**	**+10**	**+142.8%**
Additional FE FTEs at NETL supporting GDO[c]	0	1	–	–	1	0	0.0%
Total GDO-funded FTEs	0	8	–	–	18	+10	+125.0%

[a] The FY 2023 Budget Request to Congress proposes to split the Electricity appropriation account into two accounts: Electricity and Grid Deployment Office. To allow an apples-to-apples comparison with the FY 2023 request, the comparable amounts for FY 2021 and FY 2022 include amounts from the OE Transmission Permitting and Technical Assistance program, plus a portion of Program Direction funding, equivalent to what would have been in the Grid Deployment Office had the proposed structure been in place in FY 2021 and FY 2022.

[b] FY 2022 amounts shown reflect the P.L. 117–95 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level, a dash (–) is shown.

[c] GDO funds FTEs at FE's National Energy Technology Laboratory who are FE employees, but support GDO activities. The FTEs are included in FE's FTE totals and not in the GDO FTE totals shown on the "Federal Full Time Equivalent Employees (FTEs)" line.

Comparability Matrices

The tables below show the funding allocation between OE and GDO in FY 2021 through FY 2023 under the prior and the proposed budget structures.

FY 2021 Enacted Appropriation Comparability Matrix
($K)

	FY 2023 Proposed Budget Structure				Total
	Electricity	Grid Deployment Office			
		Grid Technical Assistance	Program Direction	Total, GDO	
FY 2022 and Prior Budget Structure					
Transmission Permitting & Technical Assistance	0	7,000	0	7,000	**7,000**
Program Direction	15,000	0	3,000	3,000	**18,000**
Other on-going OE programs	186,720	0	0	0	**186,720**
Total	**201,720**	**7,000**	**3,000**	**10,000**	**211,720**

FY 2022 Annualized CR Comparability Matrix
($K)

	FY 2023 Proposed Budget Structure				Total
	Electricity	Grid Deployment Office			
		Grid Technical Assistance	Program Direction	Total, GDO	
FY 2022 and Prior Budget Structure					
Transmission Permitting & Technical Assistance	0	7,000	0	7,000	**7,000**
Program Direction	15,000	0	3,000	3,000	**18,000**
Other on-going OE programs	186,720	0	0	0	**186,720**
Total	**201,720**	**7,000**	**3,000**	**10,000**	**211,720**

FY 2023 Request to Congress Comparability Matrix
($K)

	FY 2023 Proposed Budget Structure							Total
	Electricity	Grid Deployment Office						
		Grid Planning & Develop-ment	Grid Technical Assistance	Wholesale Electricity Market TA & Grants	Interregional & Offshore Transmission Planning	Program Direction	Total, GDO	
FY 2022 and Prior Budget Structure								
Transmission Permitting & Technical Assistance	0	16,200	29,500	0	0	0	45,700	**45,700**
Program Direction	17,586	0	0	0	0	5,521	5,521	**23,107**
Other on-going OE programs	279,800	0	0	0	0	0	0	**279,800**
New GDO programs in FY 2023	0	0	0	19,000	20,000	0	39,000	**39,000**
Total	**297,386**	**16,200**	**29,500**	**19,000**	**20,000**	**5,521**	**90,221**	**387,607**

Bipartisan Infrastructure Law and Programmatic Realignment
In FY 2023, GDO will continue to implement the authorities provided in the BIL:

- Preventing Outages and Enhancing the Resilience of the Electric Grid (Section 40101)
- Transmission Facilitation Fund (Section 40106)
- Deployment of Technologies to Enhance Grid Flexibility (Section 40107)
- Civil Nuclear Credit Program (Section 40323)
- Maintaining and Enhancing Hydroelectricity Incentives (Section 40333)

GDO will also continue execution during FY 2023 for BIL appropriations provided in FY 2022 only:

- Advanced Energy Security Program to Secure Energy Networks, Modeling and Assessing Energy Infrastructure Risk (Section 40125(d))
- Hydroelectric Production Incentives (Section 40331)
- Hydroelectric Efficiency Improvement Incentives (Section 40332)

The new Office of Under Secretary for Infrastructure (S-3) focuses on deploying clean energy infrastructure in pursuit of national goals for affordable and reliable energy, creating high quality jobs, enhancing U.S. manufacturing, and addressing the climate crisis. Its efforts support achieving carbon-free electricity in the United States by 2035 and a net zero economy by 2050 and delivering substantial benefits to the communities that are frequently left behind. DOE created new offices under the Under Secretary for Infrastructure and realigned other existing offices and components to better execute the BIL appropriation and the overall DOE mission. As part of this realignment, the Grid Deployment Office was created, shifting activities from the Office of Electricity's Transmission Permitting and Technical Assistance program, as well as a corresponding portion of the Program Direction program.

Future Years Energy Program
($k)

	FY 2023 Request	FY 2024	FY 2025	FY 2026	FY 2027
Grid Deployment Office	90,221	92,000	94,000	96,000	99,000

In the FY 2012 Consolidated Appropriations Act (P.L. 112–74), Congress directed the Department to include a future-years energy program (FYEP) in subsequent requests that reflects the proposed appropriations for five years. This FYEP shows outyear funding for each account for FY 2024–FY 2027. The outyear funding levels use the growth rates from and match the outyear account totals published in the FY 2023 President's Budget for both the 050 and non-050 accounts. Actual future budget request levels will be determined as part of the annual budget process.

GDO in priorities in the outyears include the following:

- Working with regions, States, and other stakeholders to help operationalize results of the National Transmission Planning Study, which will also support BIL provisions
- Providing grid technical assistance to stakeholders to make grid decisions to meet Federal and State clean energy goals, such as developing offshore wind transmission and cost-effective clean energy integration.
- Continuing to focus on energy justice to ensure the future grid is clean and equitable

Grid Planning and Development

Overview

The Grid Planning and Development (GPD) program accelerates the planning and development of transmission infrastructure to achieve a clean, reliable, resilient, and equitable grid. The program supports the Administration's and Congress' objectives:

- Demonstrate measurable improvements in energy resilience in the United States and mitigate climate-related risk
- Invest in clean energy and decarbonization solutions to achieve a carbon-free power sector by 2035 and net-zero greenhouse gas emissions economy-wide by 2050
- Invest in modernized grid infrastructure that can accommodate increased electrification, consumer preferences, and other evolving system needs over the coming decades

To ensure that this new vision of the grid serves all, regardless of socio-economic background, the Department commits to robust engagement on energy justice and collaboration with States, U.S. Territories, American Indian Tribes and Alaska Natives, industry, unions, local communities, and other stakeholders.

A robust transmission system is the backbone of the Nation's economic, energy, and national security and a strong distribution system is critical for consumer resilience. A decarbonized grid requires massive deployment of renewable energy and buildout of transmission infrastructure. New, deliberate, and different planning processes are needed to build a cost-effective transmission network that offers access to a diversity of energy resources within and across geographic regions for a reliable, resilient, and affordable electricity system. GPD leads with way to a carbon-free future by helping to facilitate this new type of transmission planning.

The National Transmission Planning Study (NTP Study), initiated in FY 2021 and formally launched in FY 2022, analyzes national-scale, long-term transmission planning scenarios to identify areas transmission that can provide broad-scale benefits to electric customers, inform interregional transmission planning processes, and identify interregional and national strategies to accelerate decarbonization while maintaining system reliability and resiliency.[a] GPD continues the second phase of the NTP study in FY 2023 to identify pathways for necessary large-scale transmission system buildouts that meet regional and national interests.

The FY 2023 Request invests, as part of the NTP Study, in transmission planning tools such that those tools are optimized given retail and wholesale markets, instead of optimized by a central planner. This results in transmission planning models that more closely resemble real practice and help planning entities and State governments analyze modifications to their power markets.

GPD convenes and collaborates with different regions, planning bodies, and other decision-makers to develop sound interregional transmission plans, utilizing expertise from subject matter experts and outcomes from the NTP Study. Recognizing that the United States is not one energy monolith, each region receives specific consideration and targeted assistance to address their unique electricity system issues and needs. These interregional planning studies provide the foundation for a future national transmission plan as well as a blueprint to connect the regions in a resilient, reliable, and economic manner.

GPD is conducting the National Electric Transmission Needs Study (Transmission Needs Study) which identifies high priority transmission needs in FY 2022. The Bipartisan Infrastructure Law (BIL) directed the Department to conduct assessments of historic and anticipated transmission capacity constraints and congestion at least every three years. Results of this study will inform the process to designate National Interest Electric Transmission Corridors (NIETC) in FY 2023.

Highlights of the FY 2023 Budget Request

In FY 2023, GPD significantly invests in the next phase of the NTP Study, additional transmission planning tools in support of the NTP Study, interregional plans, and NIETC designation processes to catalyze transmission planning and development.

[a] https://www.energy.gov/oe/national-transmission-planning-study

NTP Study

The request prioritizes the continued scenario analysis development and transmission modeling in the NTP Study. In its second year of development, the NTP Study will continue to refine and model new scenarios to reach grid decarbonization goals cost effectively and under new high-stress conditions. Several scenarios, informed by robust stakeholder engagement and defined by transmission, demand, and generation drivers, will be compared against the baseline analysis developed in FY 2022. The purpose of the baseline analysis is to compare the currently planned transmission system to the Administration's 2035 goal. These scenarios, vigorously vetted by multiple power sector models (power flow, cost benefit, capacity expansion, North American Energy Resilience Model, etc.), will help identify potential future generation resources and transmission expansion options.

The results of the scenario study will:

- Link several long-term and short-term power system models to test a number of transmission buildout scenarios
- Inform the existing planning process
- Test transmission options that lie outside of current planning
- Prove a wide range of economic, reliability, and resilience indicators for each transmission scenario

Through the NTP Study, GPD will work with stakeholders to help identify viable future grid realization pathways to a large-scale transmission system buildout that would accomplish clean energy goals.

Additionally, the NTP Study will include an economic analysis of transmission solutions, including consideration of cost allocation principles for valuing the benefits of transmission. Quantifying the benefits of transmission for resource adequacy and reliability will offer a more holistic approach than current practices of allocating costs to consumers based on production costs alone.

In a parallel effort, the NTP Study team will work with experts and industry groups to consider alternative approaches to national planning. Some of the tools and methods used by the NTP Study may be unfamiliar and not validated by industry, including computationally heavy optimization approaches that do not fully utilize regional system knowledge accumulated from decades of studies. To mitigate these challenges to industry acceptance, scoping different national transmission planning approaches will ensure stakeholders are engaged meaningfully from a bottom-up approach instead of a Department-led top-down perspective

The FY 2023 request will also create an outward-facing data exchange which enables stakeholders to access NTP Study data. This will facilitate public–private collaboration, ensure that best-in-class tools are available to the national community, and that the data and models will be consistent and available to the stakeholder community for continued coordination and collaboration over the next decade to achieve the Administration's 2035 clean electricity goal.

NTP Study Transmission Planning Tools

In FY 2023, additional transmission planning tools will be developed to further vet the NTP Study scenarios for increased confidence and validation:

- Clean Energy Zones: Analyzing the location of clean energy zones provides a more realistic method for transmission planning. There are several clean energy technologies which are location dependent—solar, wind, geothermal, and carbon capture and sequestration—and thus require special attention in capacity expansion modeling. Current models site these clean energy technologies based on optimal resources without considering local market and regulatory conditions. By modifying lab tools to consider clean energy zones, future planning efforts will be more practical and viable.
- Transmission–Generation Interconnection: Study how generation interconnection queue processes and associated system upgrade costs impact the ability of both generators and transmission to interconnect to the power system. Analyze alternative interconnection processes that will results in lower cost burden and faster interconnection time.
- Transmission Impacts on Resource Adequacy: Resource adequacy modeling is a critical component of the overall transmission system planning process. Historically, resource adequacy models have relied on a series of simplifications, but a host of complexities associated with the ongoing power system transformation and extreme weather necessitate

improved resource adequacy modeling methods. Modeling enhancements are needed to better assess how interregional transmission will impact resource adequacy.

- Impacts of Distributed Energy Resources on the Bulk Electric System: The growth of distributed energy resources (DERs), flexible loads, and behind-the-meter generation and storage will require upgrades to the distribution system. These resources can provide much needed ancillary services to the bulk power system, but those services cannot be adequately managed without joint distribution-transmission system planning. This study will develop both tools and methodologies of joint distribution-transmission planning given the increased use of DERs in coordination with utilities and industry.
- Impacts of Wholesale Market on Transmission Planning: Transmission expansion has large impacts on wholesale electricity prices, but little is understood about how the structure of those electricity markets could impact the need for transmission expansion. This work will improve market enhancement tools—meant for use by stakeholders to compare the outcomes of different market structures—to include transmission expansion and planning.

Interregional Transmission Planning

To achieve a clean, reliable, resilient, and equitable grid, interregional transmission plans must be strategically developed with input from numerous planning organizations, each with their own perspective of the electricity system. The FY 2023 request supports GPD convening and leading regional grid planning workshops to develop interregional plans for renewable transmission development. GPD will work with experts around the country, including the national laboratories and Power Marketing Administrations (PMAs), and use the outcomes of the NTP Study to provide thought leadership and facilitate robust discussion at these regional planning workshops. The program will also work closely with State offices and other stakeholders to ensure that their interregional transmission needs, challenges, opportunities, and policy goals are aligned in the transmission plans. As an outcome of the workshops, GPD will develop a robust set of resources to support transmission planners and other stakeholders in advancing interregional transmission planning processes. This includes developing intertie blueprints to connect different regions, including the Texas Interconnection, in the U.S. that considers the total costs of connection, impacts on reliability and ratepayer costs, impacts on national integration of renewable energy, and equity considerations.

National Interest Electric Transmission Corridor Designation

GPD will develop a consultation process for designating a NIETC. The Department can designate a NIETC after taking into consideration the Transmission Needs Study, which was conducted in FY 2022. The Transmission Needs Study identified high-priority national transmission needs—specifically, where new or upgraded transmission facilities could relieve expected future constraints and congestion driven by deployment of clean energy consistent with Federal, State, and local policy and consumer preferences; higher electric demand as a result of building and transportation electrification; and insufficient transfer capacity across regions. To facilitate the efficient consideration of projects seeking a FERC-issued permit, GPD will develop a process for NIETC designation on a transmission route-specific, applicant-driven basis. Particular consideration will be given to proposed NIETCs that, to the greatest degree possible, overlap with or utilize existing highway, rail, utility, and Federal land rights-of-way. GPD will prioritize engaging with stakeholders early and often, ensuring that energy justice is considered when designating a NIETC.

Grid Planning and Development
Funding ($K)

	FY 2021 Enacted	FY 2022 Enacted Annualized CR[a]	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Grid Planning and Development	0	–	16,200	+16,200	N/A

Grid Planning and Development
Explanation of Major Changes ($K)

	FY 2023 Request vs FY 2021 Enacted
• The significant increase supports the next phase of the NTP Study to develop and vet several transmission scenarios to help identify pathways for necessary large-scale transmission system buildouts that meet regional and national interests.	+16,200
• In addition, the NTP Study will develop alternative approaches to national transmission planning and build additional models to enhance transmission planning.	
• GPD will work with regions and States to develop interregional transmission plans and fund the NIETC designation process.	

[a] FY 2022 amounts shown reflect the P.L. 117–95 continuing resolution (CR) level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level, a dash (–) is shown.

Activities and Explanation of Changes

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Grid Planning and Development $0	**$16,200,000**	**+$16,200,000**

•	• The NTP Study will:
	  ○ Work with regional transmission planning organizations, States, developers, and other stakeholders to build an interregional transmission scenario-based roadmap designed to identify needed transmission capacity to hit the 2035 clean energy goals
	  ○ Develop alternative approaches to national transmission planning
	  ○ Develop new transmission planning models to vet transmission scenarios
	• In consultation with key stakeholders, develop a process to designate NIETCs and make designations, as appropriate
	• Convene and lead several regional workshops to develop interregional transmission plans
	• As an outcome of the workshops, develop a robust set of resources to support transmission planners and other stakeholders in advancing interregional transmission planning processes
		• Significantly supports the second phase of the NTP Study, a cornerstone analysis that will result in a transmission needs roadmap to achieve a decarbonized power sector by 2035
		• Supports development of new transmission planning tools
		• Supports the development of NIETC designation processes
		• Supports necessary workshops to convene multiple electricity system stakeholders to develop interregional transmission plans, critical to meeting the Administration's 2035 decarbonization goals

Grid Technical Assistance

Overview

The electricity sector is responding to several complex challenges and opportunities that will have a transformative impact on the electric grid. Multiple pathways exist for the United States to meet both resilience and clean energy goals, but all require upgrading and expanding the Nation's transmission and distribution systems; significant investment in affordable new generation resources and energy storage; and efficiency, decarbonization, and demand flexibility investments in buildings, industry, and transportation. All these electricity system decisions must be balanced against the need for cost effectiveness and reliability, while ensuring energy justice remains a priority consideration. Regional, State, Tribal, and other entities may have limited resources or lack in-house expertise to fully consider the effects of these rapidly evolving policies and challenges.

Grid Technical Assistance (Grid TA) helps electricity system stakeholders overcome these challenges through its robust technical assistance program. Grid TA works with experts around the country, including the national laboratories and the Power Marketing Administrations (PMAs), to provide data, tools, analyses, and other solutions to address the challenges and opportunities driven and impacted by the modernization of the North American grid. Grid TA expects increased demand for technical assistance as issues surrounding State and interregional utility analytical needs, macro-economic benefit determinations, offshore wind interconnection, permitting and siting of transmission infrastructure, and energy justice considerations continue to grow in complexity and urgency.

Grid TA coordinates with other Department elements, such as the Offices of Electricity and of Energy Efficiency and Renewable Energy, to provide a holistic technical assistance framework, identify co-funding opportunities, and avoid duplication of work. Types of technical assistance offered by the Department include technical analysis, financial analysis, training, program assistance, policy and planning assistance, capacity building, and stakeholder engagement and coordination. Beyond the Department, Grid TA coordinates with other Federal agencies as appropriate to maximize efficiencies delivering technical assistance to key electricity stakeholders.

In all execution of technical assistance, Grid TA includes equity considerations and, to the greatest extent possible, uses its technical assistance to States, municipal utilities, rural electric cooperatives, independent system operators, and regional transmission organizations as a lever to better ensure that decisions made at all levels of the power system do not disproportionally negatively impact disadvantaged communities.

Grid TA also executes its legal responsibilities for authorizing the export of electric energy, permitting the construction of transmission infrastructure across international borders, and helping better coordinate permitting of transmission on Federal lands.

Highlights of the FY 2023 Budget Request

The FY 2023 Request transfers activities historically performed by the Office of Electricity's Transmission Permitting and Technical Assistance program to the Grid Deployment Office's Grid TA program. The Request significantly increases the amount of technical assistance provided to catalyze changes needed to achieve the Administration's goal of a carbon pollution-free electricity sector by 2035. With the increased funding, Grid TA will greatly accelerate and expand efforts to help electricity system decision makers transition to a clean, resilient, reliable, and equitable grid. Technical assistance will be provided by Grid TA's network of subject matter experts from the national laboratories, PMAs, and other electricity industry leaders. Grid TA will also provide direct support through cooperative agreements and other financial assistance mechanisms to regional and national associations whose membership represents different electricity stakeholders.

In FY 2023, Grid TA will focus on transmission, energy justice, and rural electric utilities.

<u>Transmission</u>

- Grid TA will engage in activities that will expand the Nation's transmission capacity.
- Grid TA will issue a funding opportunity announcement (FOA) or establish grants for states to pilot innovative approaches to facilitate transmission development.
    - Emphasis will be on multi-state applications to develop interstate or interregional transmission infrastructure.
    - The FOA/grant will strongly encourage State partnerships with relevant stakeholders and provide the awardees with technical and financial assistance.

- Grid TA will develop new transmission tools and continue to maintain its suite of transmission tools, focusing on improving permitting and siting.
    - New data analytical tools such as wind, solar, and climate forecasting will help give needed visibility to successfully integrate the large amounts of intermittent generation successfully.
    - Other tools, such as expanded benefit analysis, seams modeling, or investment decision making, will be developed.
    - Tools, analysis, and methodologies to help design transmission incentives to meet clean energy goals.
    - Outcomes from regional collaborations will further inform the types of tools needed to help develop transmission.
- Grid TA will track and, when necessary, coordinate DOE technical assistance for, all significant transmission projects within the United States.
    - This builds off the work conducted in FY 2022 that identified strategically important and shovel-ready transmission projects.
    - Utilizing that list, Grid TA will identify regulatory hurdles in Federal siting and permitting processes and seek to collaborate with others to remove barriers to accelerate transmission infrastructure development.

<u>Energy Justice</u>
- Grid TA will champion energy justice issues by providing technical assistance to stakeholders in this area. Federal, regional, State, Tribal, and other entities must consider and mitigate energy justice challenges when planning for the 2035 decarbonized grid.
- The future electric grid must not only be clean, reliable, and resilient, it must be equitable as well.
- Challenges include accessibility and affordability, infrastructure siting, environmental impacts, and inequitable distribution of benefits.
- The FY 2023 Request will provide technical assistance to ensure that communities will not be left behind in pursuit of a greener grid.
- Grid TA will build in energy justice considerations into the models as areas for clean energy transmission buildout are identified.

<u>Rural electrification</u>
- The Department will work with the U.S. Department of Agriculture (USDA) to support rural electricity utilities.
- In FY 2023, Grid TA will participate in a joint initiative with USDA's Rural Utilities Service (RUS) to provide technical assistance for rural electric utilities to achieve the President's de-carbonization goals and ensure clean energy funding is implemented effectively in rural areas.
- The RUS Electric Program provides funding to maintain, expand, upgrade, and modernize America's rural electric infrastructure. Grid TA will work in conjunction with RUS to align decarbonization and financing opportunities in rural communities.

Other Grid TA technical assistance areas include:

- Identifying regulatory, operations, and business models that align incentives for transmission development
- Identifying implications of energy interdependencies to improve the alignment and integration of generation, distribution, and transmission planning
- Integrating affordability, evolving customer expectations and behaviors, and electricity access and equity issues, all with a focus on energy justice
- Finding solutions to address aging and poorly maintained transmission infrastructure
- Exploring different approaches to climate resilience planning support to mitigate future risks
- Identifying interregional transmission needed to accommodate increases in demand, such as electrification of transportation and new or growing industries
- Modeling ways to achieve grid-scale renewable energy and distributed energy resource integration
- Identifying investment options to meet established and emerging grid needs and analysis for grid investment decision-making
- In coordination with the Office of Cybersecurity, Energy Security, and Emergency Response (CESER), assisting stakeholders in addressing cybersecurity issues in transmission infrastructure

Grid TA will also continue its regulatory activities to execute and carry out its statutory authorities and responsibilities to improve permitting and siting:

- Conducting environmental reviews and technical analyses needed for Federal authorization of transmission projects that cross U.S. international borders
- Coordinating Federal permitting by other agencies of new transmission infrastructure that involves Federal authorizations, as required by Section 216(h) of the Federal Power Act
- Evaluating any new applications under Section 1222 of the Energy Policy Act of 2005, which authorizes DOE to participate in third party-financed transmission projects within the Western Area Power Administration (WAPA) and the Southwestern Power Administration (SWPA) regions

In addition to the regulatory and statutory actions above, Grid TA will review projects associated with the Bipartisan Infrastructure Law (BIL) under the National Environmental Policy Act (NEPA) for the following provisions:

- Preventing Outages and Enhancing the Resilience of the Electric Grid (Section 40101)
- Transmission Facilitation Fund (Section 40106)
- Deployment of Technologies to Enhance Grid Flexibility (Section 40107)
- Advanced Energy Security Program to Secure Energy Networks, Modeling and Assessing Energy Infrastructure Risk (Section 40125(d))
- Civil Nuclear Credit Program (40323)
- Hydroelectric Production Incentives (Section 40331)
- Hydroelectric Efficiency Improvement Incentives (Section 40332)
- Maintaining and Enhancing Hydroelectricity Incentives (Section 40333)

Grid Technical Assistance
Funding ($K)

	FY 2021 Enacted[a]	FY 2022 Enacted Annualized CR[b]	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Grid Technical Assistance					
Electricity System Technical Assistance	6,500	–	23,500	+17,000	+261.5%
Rural Electric Utilities	0	–	5,000	+5,000	N/A
Regulatory Programs	500	–	1,000	+500	+100.0%
Total, Grid Technical Assistance	**7,000**	**7,000**	**29,500**	**+22,500**	**+321.4%**

Grid Technical Assistance
Explanation of Major Changes ($K)

	FY 2023 Request vs FY 2021 Enacted
• Electricity System Technical Assistance: Significantly increases the amount of technical assistance provided to catalyze changes needed to achieve the Administration's goal of a carbon pollution-free electricity sector by 2035. Activities include FOA/grant to States, development of new tools, and addressing energy justice.	+17,000
• Rural Electric Utilities: New activity to provide technical assistance for rural electric utilities to support the transition to carbon-pollution-free electricity by 2035.	+5,000
• Regulatory Programs: Increase provides NEPA support and analysis to BIL program investments.	+500
Total, Grid Technical Assistance	**+22,500**

[a] FY 2021 funds were appropriated under Transmission Permitting and Technical Assistance in the Electricity appropriation.
[b] FY 2022 amounts shown reflect the P.L. 117–95 continuing resolution (CR) level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level, a dash (–) is shown.

Grid Technical Assistance

Activities and Explanation of Changes

FY 2021 Enacted[a]	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Grid Technical Assistance $7,000,000	**$29,500,000**	**+$22,500,000**
Electricity System Technical Assistance $6,500,000	*$23,500,000*	*+$17,000,000*
• Provided technical assistance to Federal, State, Tribal, territorial, and regional entities for current and future electricity-related issues • Supported technical assistance work to provide stakeholders an in-depth understanding of the resilience of the electricity and related infrastructure • Developed grid resilience tools and analyses to help State electricity officials promote prudent, strategic decision-making	• Issue a FOA or establish grants to States to pilot innovative approaches to facilitate transmission development • The FOA/grants will strongly encourage State partnerships with relevant stakeholders and provide the awardees with technical and financial assistance • Expand suite of tools for transmission development, such as tools for transmission data analytics, expanded benefit analysis, seams modeling, renewable zones, or investment decision making • Develop tools, analysis, and methodologies to help design transmission incentives to meet clean energy goals • Track and coordinate DOE technical assistance for all significant transmission projects within the United States • Provide technical assistance for energy justice and ensure energy justice considerations are built into new models • Provide technical assistance on topics outside of transmission and energy justice areas, such as on implications of energy interdependencies to improve the alignment and integration of generation, distribution, and transmission planning	• Significantly accelerates transmission development by releasing FOA/grants to States and expanding the suite of new transmission tools • Ensure energy justice is a consideration and priority in all technical assistance activities, highlighting the Department's commitment to equity • Continues to be responsive to States for technical assistance requests that may be outside the scope of transmission, such as comprehensive planning assistance for generation, transmission, and distribution

[a] FY 2021 funds were appropriated under Transmission Permitting and Technical Assistance in the Electricity appropriation.

FY 2021 Enacted[a]	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Rural Electric Utilities $0	*$5,000,000*	*+$5,000,000*
	• As part of a joint initiative with USDA's RUS, provide technical assistance for rural electric utilities to support the transition to carbon pollution free electricity by 2035 • Work in conjunction with RUS to align decarbonization and financing opportunities in rural communities	• New program established in FY 2023 to support rural communities transition to a decarbonized grid by 2035
Regulatory Programs $500,000	*$1,000,000*	*+$500,000*
• Continued to implement regulatory responsibilities and evaluate regulatory reform to reduce Federal burden.	• Conduct environmental reviews and technical analyses needed for Federal authorization of transmission projects that cross U.S. international borders • Provide NEPA support and analysis to BIL program investments, potentially totaling over $10 billion dollars of funding	• Increase supports NEPA review of BIL projects

Wholesale Electricity Market Technical Assistance and Grants

Overview

The mission of the Wholesale Electricity Market Technical Assistance and Grants (Market TAG) program is to work with electricity system partners and stakeholders to establish and improve centrally organized market components and bilateral market arrangements to ensure a clean, reliable, resilient, and equitable grid.

Over the past two decades, a diverse set of wholesale electricity markets has evolved in different regions of the United States. These wholesale markets can be divided into two broad categories: traditional bilateral markets (regions of the country that have not joined regional transmission organizations [RTOs] or Independent Systems Operators [ISOs]) and centrally organized markets.

In the Southeast and West, bilateral markets are dominated by vertically integrated electric utilities (VIEU) that operate under a regulated cost-of-service model. States in these regions retain strong control over electric utility resource decisions and oversee resource adequacy, and they consider non-market factors in their oversight of utility decisions through a utility's integrated resource planning process. Once approved by State regulators, ratepayers guarantee the cost recovery of VIEU generation investments through retail rates (or merchant generators through long-term purchase power agreements, or PPAs, with utilities).

In centrally organized markets, generators offer electricity bids on a day-ahead and real-time basis. The RTO/ISO then pools these bids into a single supply curve and calculates the clearing price that matches supply to demand, considering transmission limitations for the next interval. This calculation yields a set of market-clearing prices, one for each location and time horizon. Centrally organized markets also compensate resources that provide certain essential reliability services through ancillary service markets. Furthermore, in some cases, RTO/ISOs provide supplemental revenues to generators that are dispatched out-of-market, such as ones that are needed to ensure local reliability.

Highlights of the FY 2023 Budget Request

Market TAG is a new program in FY 2023 to provide technical assistance to States and regions to evaluate forming, expanding, or improving organized wholesale electricity markets. To combat climate change, massive deployment of renewable energy and build out of transmission infrastructure is necessary for 100% clean electricity by 2035 and net-zero emissions economy-wide by 2050. Wholesale electricity market designs need to reflect these increases in renewable energy and distributed energy resources (DERs) to achieve a clean, reliable, resilient, and equitable grid. The program will also make grants to procure data or technology systems to help support the exploration of innovative wholesale electricity market components.

The program will analyze requirements for wholesale market component formation and concerns regarding:

- Resource Adequacy: Some States require utilities to build new or subsidize specific power plants outside the RTO/ISO resource adequacy processes. Other centrally organized markets (PJM, ISO New England, and New York ISO) have implemented capacity markets as a mechanism to provide sufficient revenue for resources to ensure resource adequacy.
- Wholesale market buildout, including market governance, planning and policy, and regulatory development assistance related to RTO and ISO formation, expansion, or improvement.
- Policy Coordination: Technical capacity needed to address challenges related to the coordination and alignment of existing organized wholesale markets with state energy and climate priorities, governance, and interoperability.
- Cost and Benefits of Market Components: Studying the costs and benefits to consumers and the financial and operations impacts of joining an RTO or ISO, including regional and multi-state-level economic modeling of the benefits of interstate sharing of electric resources to provide reliable and affordable service; planning for significant additions of new variable electric resources, grid demands presented by State or Federal energy and climate policies; consideration of system and fuel interdependencies that create emergency conditions during extreme weather events; and accounting for generation production costs savings, fuel savings, transmission cost savings, reliability, resiliency, deferral of capital investments, and the effect on economic development and retention of industry.

- Market Designs: The ability of current market designs can be adapted to provide good long-term price signals to support investment in an efficient portfolio of generating capacity and storage consistent with public policy goals.
- Reliability: The development of short-term market mechanisms to provide energy and ancillary services and accommodate the supply variability and energy market price impacts associated with intermittent generation and energy storage deployment at scale.
- DER Integration: Technical assistance needed to accelerate understanding of State roles, decisions, and options in implementing FERC Order 2222, which enables DERs to participate alongside traditional resources in regional organized wholesale markets.

The program will be executed in two parts

- Market Simulations and Analytics: Funding will support national laboratory expertise in market simulations and analytics regarding market formation, wholesale and retail market relationships and future market design. Resource adequacy issues are continuing to grow across the electricity network and innovations around market structures to support resource adequacy across regions and balancing areas are opportunities for innovation. Specifically, the limited information on transmission loading relief could be utilized to better understand transmission congestion and priorities for tools such as dynamic line ratings. In addition, lessons learned from the Northeast ISOs could be modeled for using prices to identify transmission capacity resources. Other opportunities exist to review and update the appropriate minimum reserve margin based on estimates of the value of lost load for system reliability. With the transition to clean energy resources and energy storage, the design of reserve margins should be investigated.
- Grants to States and ISO/RTOs: Funding will be provided to regional entities and States for the purpose of investigating market improvements, specifically to evaluate wholesale market opportunities such as expansion of energy imbalance markets. The ISOs collect and release a variety of performance data as part of their normal operations. The importance of interregional power flows and regional markets will drive more data sharing and collaboration across market and ISO seams, which will be critical to enabling regional support in emergencies.

Wholesale Electricity Market Technical Assistance and Grants
Funding ($K)

	FY 2021 Enacted	FY 2022 Enacted Annualized CR[a]	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Wholesale Electricity Market Technical Assistance and Grants					
Market Simulations and Analytics	0	–	5,000	+5,000	N/A
ISO/RTO Grants	0	–	14,000	+14,000	N/A
Total, Wholesale Electricity Market Technical Assistance and Grants	**0**	**0**	**19,000**	**+19,000**	**N/A**

Wholesale Electricity Market Technical Assistance and Grants
Explanation of Major Changes ($K)

	FY 2023 Request vs FY 2021 Enacted
▪ Market Simulations and Analytics: The Request supports national laboratory expertise in market simulations and analytics regarding market formation, wholesale and retail market relationships, and future market design.	+5,000
▪ State and ISO/RTO Grants: The request provides 3–4 grants for regional entities and States to investigate market improvements.	+14,000
Total, Wholesale Electricity Market Technical Assistance and Grants	**+19,000**

[a] FY 2022 amounts shown reflect the P.L. 117–95 continuing resolution (CR) level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level, a dash (–) is shown.

Wholesale Electricity Market Technical Assistance and Grants

Activities and Explanation of Changes

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Wholesale Electricity Market Technical Assistance and Grants $0	**$19,000,000**	**+$19,000,000**
Market Simulations and Analytics $0	*$5,000,000*	*+$5,000,000*
	• Conduct at least one major study on wholesale market challenges and potential solutions • Efforts could focus on ancillary services and market components such as reserve requirements, resource adequacy, load following, dynamic scheduling and/or network stability services including black start capabilities to improve resilience and reliability	• New program established in FY 2023
State and ISO/RTO Grants $0	*$14,000,000*	*+$14,000,000*
	• Establish at least 3–4 grants to States and ISO/RTOs for evaluating new markets and market improvements • Efforts will directly support market development opportunities and analysis of market power, cost allocation and support of innovative transmission pricing concepts	• New program established in FY 2023

Interregional and Offshore Transmission Planning

Overview

As the electric industry transitions from traditional carbon-producing generation resources toward net-zero generation resources for serving their customers, the electric transmission grid needs to transform as well. State carbon policies, coupled with Federal goals, are accelerating the rate at which the industry must shift. As we plan for the transition from the existing electric transmission grid to the grid of the future, multiple variables must be considered, including the integration of large volumes of clean generation and end-source electrification.

Transmission constraints are a potential impediment to reach the Administration's 30 GW by 2030 goal for offshore wind (OSW) deployment. As a result, the White House requested that DOE and U.S. Department of Interior's Bureau of Ocean Energy Management (BOEM) develop a plan for addressing these challenges. The effort also seeks to maximize benefits to the onshore transmission system by considering solutions that would reduce congestion and support system interconnection, including potential onshore transmission upgrades. This work will be closely aligned with the National Transmission Planning Study, which is looking at transmission upgrades needed on a national level. The OSW deployment targets are a critical steppingstone to meeting the carbon-pollution free electric grid by 2035 goal and the study areas will overlap for coastal States.

Since May 2021, leveraging activities initiated by the Office of Energy Efficiency and Renewable Energy's Wind Energy Technology Office (EERE WETO), DOE and BOEM have been engaged in the following transmission-focused activities:

- Consultation with FERC on the primary barriers to offshore transmission planning and developing a plan for addressing these challenges.
- Hosting in a series of discussions with respect to transmission needs and potential solutions with key stakeholders, including Tribal Nations, public utility commissions, State energy offices, transmission operators and regulators, utilities, OSW developers, cable and transmission providers, regional ocean coordinators, fisheries organizations, non-governmental organizations, and unions.
- Consulting with the National Oceanic and Atmospheric Administration, U.S. Coast Guard, U.S. Department of Defense, and U.S. Army Corps of Engineers on the above, as well as on ways that Federal transmission permitting could be coordinated as a Federal family.
- Completing a literature review and a gaps and data analysis regarding ongoing efforts on OSW transmission and potential barriers to adequate transmission.
- Developing a technical assistance and convening plan, including articulation of specific challenges that will be addressed and proposed solutions for discussion.
- Initiating an OSW transmission study for the Atlantic interconnect region.

The new Interregional and Offshore Transmission Planning (IOTP) program will build upon this foundation to facilitate collaborative and coordinated planning for phased transmission development that allows for the grid interconnection, integration, and interoperability of OSW along U.S. coasts in a way that:

- Identifies a coordinated generation and transmission pathway to meeting the Administration's 2030 and 2050 offshore wind deployment goals
- Improves grid reliability and resilience and minimizes congestion and curtailment
- Aligns with near-term and long-term State and Federal decarbonization goals, and utility resource needs
- Seeks to minimize environmental and community impacts, institutionalizes energy justice and equity in transmission planning, promotes ocean co-use, and aligns with Tribal equities
- Identifies potential system benefits, cost allocation approaches, and cost efficiencies to maximize the utility of existing points of interconnection and future shared transmission infrastructure

Within the Department, the IOTP program closely collaborates with EERE WETO to ensure OSW technologies align with transmission needs.

Highlights of the FY 2023 Budget Request

The IOTP requests resources to expand the work started on the Atlantic coast in FY 2022 under 3 coordinated efforts: Technical Assistance, Convening, and Analysis.

- *Technical Assistance*: provide funding mechanisms to encourage OSW electricity transmission and forward-looking transmission development for offshore wind integration. In FY 2023, IOTP will issue a funding opportunity announcement (FOA) or grants that will provide technical assistance to help future-proof the transmission system and reduce the overbuild risk for developers specifically to facilitate offshore wind deployment.
- *Analysis:* conduct planning, modeling, and analysis regarding OSW electricity transmission and transmission of electricity that is generated by offshore wind, taking into account the local, regional, and national economic, reliability, resilience, security, public policy, and environmental benefits of OSW electricity transmission and transmission of electricity that is generated by offshore wind. IOTP will extend OSW transmission analysis beyond the Atlantic coast, to include the Pacific, Great Lakes, and Gulf coasts. The program will partner with national organizations, such as the National Governors Association (NGA), National Association of Regulatory Utility Commissioners (NARUC), and National Association of State Energy Officials (NASEO), as well as Federal Agencies, national laboratories, and Tribal Nations to provide needed research and educational resources. Potential analytical products could include system benefits, cost allocation, cost efficiencies, and other topics requested by stakeholders.
- *Convening*: Host workshops for stakeholder engagement and pay expenses associated with convening relevant stakeholders, including States, generation and transmission developers, regional transmission organizations, independent system operators, environmental organizations, Indian Tribes, and other stakeholders the Secretary determines appropriate, to address the development of OSW electricity transmission and transmission of electricity that is generated by offshore wind. The purpose of these workshops will be to codify a radial and network-ready strategy for OSW development in the Northeast.

Interregional and Offshore Transmission Planning
Funding ($K)

	FY 2021 Enacted	FY 2022 Enacted Annualized CR[a]	FY 2023 Request	FY 2023 Request vs FY 2021 Enacted ($)	FY 2023 Request vs FY 2021 Enacted (%)
Interregional and Offshore Transmission Planning					
Technical Assistance	0	–	15,000	+15,000	N/A
Analysis	0	–	2,500	+2,500	N/A
Convening	0	–	2,500	+2,500	N/A
Total, Interregional and Offshore Transmission Planning	0	**0**	**20,000**	**+20,000**	**N/A**

Interregional and Offshore Transmission Planning
Explanation of Major Changes ($K)

	FY 2023 Request vs FY 2021 Enacted
• Technical Assistance: Provides funding mechanisms to encourage OSW electricity transmission	+15,000
• Analysis: Supports planning, modeling, and analysis regarding OSW electricity transmission	+2,500
• Convening: Supports travel expenses for stakeholders to attend convenings for OSW transmission discussions to ensure robust participation	+2,500
Total, Interregional and Offshore Transmission Planning	**+20,000**

[a] FY 2022 amounts shown reflect the P.L. 117–95 continuing resolution (CR) level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level, a dash (–) is shown.

Interregional and Offshore Transmission Planning

Activities and Explanation of Changes

FY 2021 Enacted	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Interregional and Offshore Transmission Planning $0	**$20,000,000**	**+$20,000,000**
Technical Assistance $0	*$15,000,000*	*+$15,000,000*
	• Issue FOA/grants to facilitate transmission development to connect OSW	• New program in 2023
Analysis $0	*$2,500,000*	*+$2,500,000*
	• Conduct planning, modeling, and analysis regarding OSW electricity on topics informed by stakeholders and industry groups	• New program in 2023
Convening $0	• *$2,500,000*	• *+$2,500,000*
	• Conduct 5 stakeholder workshops and codify a radial and network-ready strategy for OSW development in the Northeast	• New program in 2023

Program Direction

Overview

Program Direction provides for the costs associated with the Federal workforce, including salaries, benefits, travel, training, building occupancy, IT services, security clearance, and other related expenses. It also provides for the costs associated with contractor services that, under the direction of the Federal workforce, support the Grid Deployment Office (GDO) mission.

Salaries and Benefits support Federal employees who provide executive management, programmatic oversight, and analysis for the effective implementation of the GDO program. This includes staff at Headquarters and at the National Energy Technology Laboratory (NETL). While GDO funds NETL staff within its budget, the NETL Federal employees are included within the full-time equivalent (FTE) total for the Fossil Energy Research and Development account.

Travel includes transportation, subsistence, and incidental expenses that allow GDO to effectively provide the Department's electricity-related outreach to regions, states, and tribes regarding planning needs and issues, policies, siting protocols, and new energy facilities.

Support Services includes contractor support directed by the Federal staff to perform administrative tasks and provide analyses to management. These efforts include issue-oriented support on science, engineering, environment, and economics that benefit strategic planning; technology and market analysis to improve strategic and annual goals; development of management tools and analyses to improve overall office efficiency; assistance with communications and outreach to enhance GDO's external communication and responsiveness to public needs; development of program-specific information tools that consolidate corporate knowledge, performance tracking and inventory data, improve accessibility to this information, and facilitate its use by the entire staff.

Other Related Expenses includes corporate IT support (for DOE's Energy Information Technology Services [EITS] desktop services and IT equipment) and working capital fund (WCF) expenses, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes office safety requirements, equipment upgrades and replacements, commercial credit card purchases using simplified acquisition procedures where possible, security clearance expenses, and other needs.

Highlights of the FY 2023 Budget Request

The FY 2023 Program Direction Request reflects increased staffing to support the new and expanded program activities requested for GDO in FY 2023.

Program Direction
Funding ($K)

	FY 2021 Enacted	FY 2021 Enacted (Comparable)[a]	FY 2022 Enacted Annualized CR[b]	FY 2022 CR (Comparable)[a]	FY 2023 Request	FY 2023 Request vs FY 2021 Comp. ($)	FY 2023 Request vs FY 2021 Comp. (%)
Program Direction Summary							
Washington Headquarters							
Salaries and Benefits	0	1,960	–	–	2,856	+896	+45.7%
Travel	0	50	–	–	50	0	0.0%
Support Services	0	363	–	–	885	+522	+143.8%
Other Related Expenses	0	297	–	–	1,244	+947	+318.8%
Total, Washington Headquarters	**0**	**2,670**	**–**	**–**	**5,035**	**+2,365**	**+88.6%**
National Energy Technology Laboratory							
Salaries and Benefits	0	232	–	–	232	0	0.0%
Travel	0	30	–	–	30	0	0.0%
Support Services	0	51	–	–	51	0	0.0%
Other Related Expenses	0	17	–	–	173	+156	+1070.5%
Total, National Energy Technology Laboratory	**0**	**330**	**–**	**–**	**486**	**+156**	**+47.2%**
Total Program Direction							
Salaries and Benefits	0	2,192	–	–	3,088	+896	+40.9%
Travel	0	80	–	–	80	0	0.0%
Support Services	0	414	–	–	936	+522	+126.0%
Other Related Expenses	0	314	–	–	1,417	+1,103	+351.2%
Total, Program Direction	**0**	**3,000**	**0**	**3,000**	**5,521**	**+2,521**	**+84.0%**

[a] The FY 2023 Budget Request to Congress proposes to split the Electricity appropriation account into two accounts: Electricity and Grid Deployment Office (GDO). To allow an apples-to-apples comparison with the FY 2023 Request, the comparable amounts for FY 2021 and FY 2022 include a portion of OE Program Direction funding equivalent to what would have been in GDO had the proposed structure been in place in FY 2021 and FY 2022.

[b] FY 2022 amounts shown reflect the P.L. 117–95 continuing resolution (CR) level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level, a dash (–) is shown.

	FY 2021 Enacted	FY 2021 Enacted (Comparable)[a]	FY 2022 Enacted Annualized CR[b]	FY 2022 CR (Comparable)[a]	FY 2023 Request	FY 2023 Request vs FY 2021 Comp. ($)	FY 2023 Request vs FY 2021 Comp. (%)
Federal FTEs	**0**	**7**	**–**	**–**	**17**	**+10**	**+142.8%**
Additional FE FTEs at NETL supporting GDO[a]	0	1	–	–	1	0	0.0%
Total GDO-funded FTEs	0	8	–	–	18	+10	+125.0%
Support Services and Other Related Expenses							
Support Services							
Technical Support	0	220	–	–	496	+276	+125.4%
Management Support	0	194	–	–	440	+246	+126.8%
Total, Support Services	**0**	**414**	**–**	**–**	**936**	**+522**	**+126.0%**
Other Related Expenses							
Other Services	0	16	–	–	371	+355	+221.8%
EITS Desktop Services	0	62	–	–	334	+272	+438.7%
WCF	0	236	–	–	712	+476	+201.6%
Total, Other Related Expenses	**0**	**314**	**–**	**–**	**1,417**	**+1,103**	**+351.2%**

[a] GDO funds FTEs at FE's National Energy Technology Laboratory who support GDO activities. The FTEs are included in FE's FTE totals and not in the GDO FTE totals shown on the "Federal FTEs" line.

Program Direction

Activities and Explanation of Changes

FY 2021 Enacted (Comparable)	FY 2023 Request	Explanation of Changes FY 2023 Request vs FY 2021 Enacted
Program Direction $3,000,000	**$5,521,000**	**+$2,521,000**
Salaries and Benefits $2,192,000	*$3,088,000*	*+$896,000*
• Salaries and Benefits support 8 FTEs at HQ and NETL that provide executive management, programmatic oversight, and analysis for the effective implementation of the GDO program	• Salaries and Benefits support 18 FTEs at HQ and NETL that provide executive management, programmatic oversight, and analysis for the effective implementation of the GDO program	• Supports the 2023 Federal pay increase and 10 new FTE's
Travel $80,000	*$80,000*	*$0*
• Travel includes transportation, subsistence, and incidental expenses that allow GDO to effectively facilitate its mission	• Travel includes transportation, subsistence, and incidental expenses that allow GDO to effectively facilitate its mission	• No increase projected
Support Services $414,000	*$936,000*	*+$522,000*
• Support Services includes contractor support directed by the Federal staff to perform administrative tasks and provide analysis to management. Support Services may include support for post-doctoral fellows and IPA assignments	• Support Services includes contractor support directed by the Federal staff to perform administrative tasks and provide analysis to management. Support Services may include support for post-doctoral fellows and IPA assignments	• Increase in support services to support due to the 10 new FTE's
Other Related Expenses $314,000	*$1,417,000*	*+$1,103,000*
Other Related Expenses includes EITS desktop services and WCF expense, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes equipment upgrades and replacements, commercial credit card purchases using the simplified acquisition procedures to the maximum extent possible, security clearance expenses and other needs	• Other Related Expenses includes EITS desktop services and WCF expense, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes equipment upgrades and replacements, commercial credit card purchases using the simplified acquisition procedures to the maximum extent possible, security clearance expenses and other needs	• Other Related Expenses increases due to 10 new FTE's