



Grid Deployment Office Overview

Rail Electrification Council Spring Meeting
May 23, 2023

Liza Reed, PhD
Strategic Initiatives, Transmission Division
Liza.reed@hq.doe.gov



Grid Deployment Office

Mission Statement: The Grid Deployment Office (GDO) works to provide electricity to everyone, everywhere by maintaining and investing in critical generation facilities to ensure resource adequacy and improving and expanding transmission and distribution systems to ensure all communities have access to reliable, affordable electricity.

Generation Credits Division

The Generation Credits Division works with existing generation facilities to ensure resilience and reliability.

Transmission Division

The Transmission Division supports innovative efforts in transmission reliability and clean energy analysis and programs, and energy infrastructure and risk analysis in support of the Administration's priorities to enhance grid resilience.

Grid Modernization Division

The Grid Modernization Division oversees activities that prevent outages and enhance the resilience of the electric grid.



GDO

Generation Credits

Civil Nuclear Credit Program:
\$6 billion

Hydro Incentives:
More than \$700 million

Transmission

Transmission Facilitation Program:
\$2.5 billion

Transmission Facility Financing:
\$2 billion

**Transmission Siting and Economic
Development Grants** \$760 million

**NTP and Needs Studies; OSW
Convenings**

Permitting

Grid Modernization

**State/Tribal Grid Resilience
Formula Grants:** \$2.3 billion

GRIP Program: \$10.5 billion

Puerto Rico Recovery: +\$1
billion

Territory Recovery Assistance

Annual Appropriations



GDO Transmission Efforts

1

Enhanced Planning

2

Siting and permitting, including support for states and local communities and federal permitting coordination

3

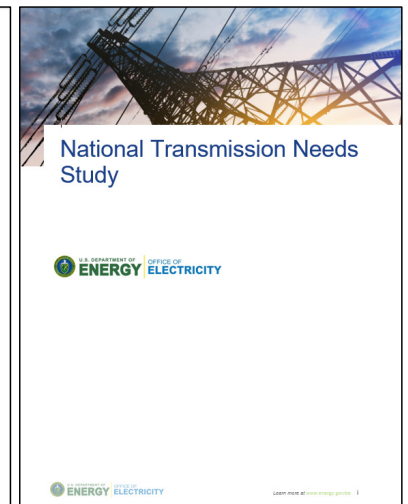
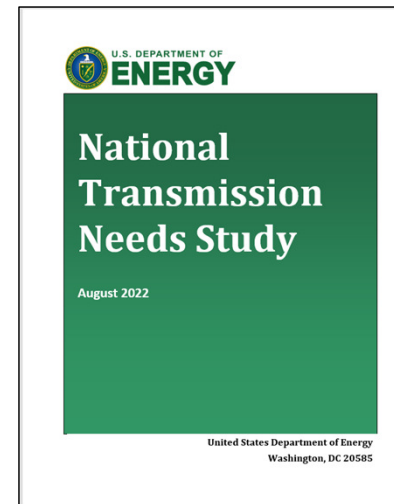
Commercial facilitation



Transmission Needs Study

Objective: Review current and anticipated future needs of the grid

- ▶ “Needs” include:
 - Reliability and resilience
 - Congestion
 - Transfer capacity limits
 - New generation delivery
- ▶ Analysis includes:
 - Historic transmission and generation installations
 - Historic wholesale electricity prices
 - Review of nearly 40 industry, academic, lab reports
 - Results of capacity expansion models
- ▶ *** Study responds to several DOE authorities, including FPA §216 enabling designation of National Interest Electric Transmission Corridors

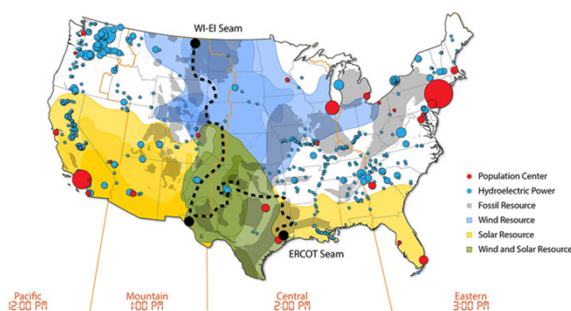


The Draft Needs Study was released for public comment on February 24, 2023. Comments closed on April 20, 2023. Final Needs study expected Summer 2023



National Transmission Planning Study: Project team

- ▶ This study is being conducted by a joint National Renewable Energy Laboratory (NREL) and Pacific Northwest National Laboratory (PNNL) project team
- ▶ This study builds on past projects and expertise at NREL and PNNL with the support and direction of DOE's Office of Electricity



Office of Electricity

North American Energy
Resilience Model



National Transmission Planning Study: Objectives

Objectives

- ▶ Identify **interregional and national strategies** to accelerate cost-effective **decarbonization** while maintaining system reliability
- ▶ Inform regional and interregional transmission planning processes, particularly by **engaging stakeholders** in dialogue
- ▶ Identify **viable and efficient** transmission options that will provide broad-scale benefits to electric customers

Desired outcomes

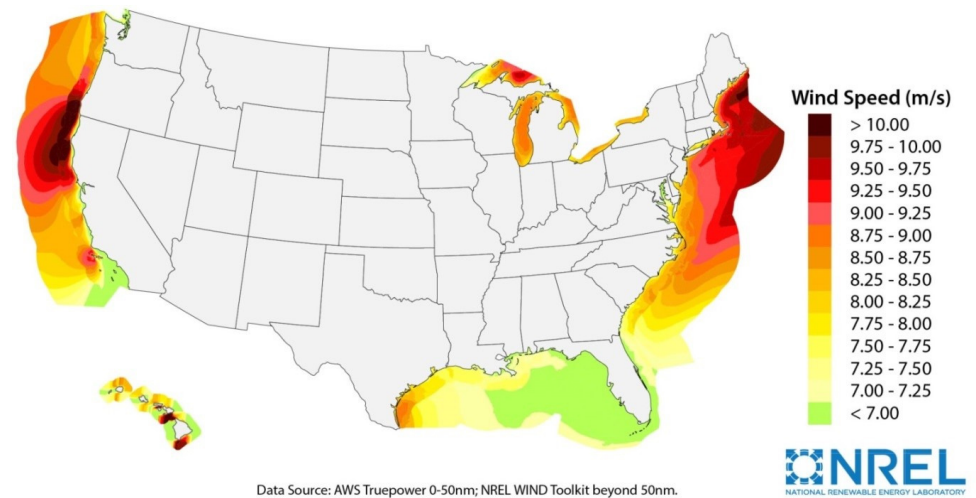
- ▶ Results help **prioritize future DOE funding** for transmission infrastructure support
- ▶ Results help **fill existing gaps** within interregional transmission planning
- ▶ Study provides a framework for stakeholders to discuss **desired grid outcomes** and **address barriers** to achieving them



OSW Transmission Overview

In establishing the Biden Administration's 30 GW by 2030 goal for offshore wind (OSW) deployment, transmission constraints were identified as a central potential impediment. As a result, the White House requested that the U.S. Department of Energy (DOE) and U.S. Department of the Interior (DOI) Bureau of Ocean Energy Management (BOEM) develop a plan for addressing these challenges.

Agency efforts initially focused on the Atlantic Coast and recently the West Coast. Gulf of Mexico will be starting in the near future, to be followed by the Great Lakes and Gulf of Maine regions.



Transmission Siting and Economic Development Grant (TSED) Program

Supported by the Inflation Reduction Act of 2022, TSED appropriates \$760 million to make grants to siting authorities and state, local, and Tribal governmental entities to carry out certain eligible activities related to the siting of covered transmission projects that:

1. Will facilitate the siting and permitting of covered transmission projects; or
2. Support economic development projects in communities affected by covered transmission projects.

RFI was released for public feedback in January 2023; comments closed on February 28, 2023.



Transmission Facilitation Program (TFP)

(Sec. 40106 of the Bipartisan Infrastructure Law)

TFP is \$2.5 Billion in revolving fund borrowing authority.

Submission deadline for the first phase was February 1, 2023

The TFP is a revolving fund program that will provide Federal support to overcome the financial hurdles in the development of large-scale new transmission lines, upgrading of existing transmission, and the connection of microgrids in select States and U.S. territories.

- ▶ First RFP will focus on “shovel ready” transmission projects that can begin construction by year-end 2027
- ▶ TFP designed for projects that would otherwise not be constructed without support
- ▶ Will NOT include projects that already are fully subscribed or have a fully allocated source of revenue

Facilitation Tools:

1. Capacity Contracts
 - Buy up to 50% of planned line rating for up to 40 years
 - Sell capacity contract to recover costs
2. Public Private Partnerships
 - Within a national interest electric transmission corridor (NIETC)
 - Necessary to accommodate an increase in electricity demand across more than one state or transmission planning region
3. Loans



Transmission Facilitation Program Scope and Priorities

- ▶ Eligible project:
 - Construction of a new or replacement transmission line of at least 1,000 megawatts;
 - Upgrade of an existing transmission line or construction of a new transmission line in an existing transmission, transportation, or telecommunication infrastructure corridor of at least 500 megawatts; or
 - Connection of an isolated microgrid to an existing transmission, transportation, or telecommunications infrastructure corridor located in Alaska, Hawaii, or a U.S. territory.
- ▶ Project prioritization:
 - Use technology that enhances the capacity, efficiency, resilience, or reliability of an electric power transmission system, including the use of advanced technology;
 - Improve the resilience and reliability of an electric power transmission system;
 - Facilitate interregional transfer capacity that supports strong and equitable economic growth; and
 - Contribute to national or subnational goals to lower electricity sector greenhouse gas emissions.



Additional DOE transmission funding available

- ▶ **IRA: Transmission Facility Financing within the Grid Deployment Office**
 - Provides \$2 billion in direct loan authority for facility financing.
 - For projects designated by the Secretary to be necessary in the national interest under section 216(a) of the Federal Power Act
- ▶ **Loan Programs Office**
 - Through Title 17 LPO has \$40 Billion in loan authority, for which innovative transmission expansion projects and emerging technologies (including HVDC deployment) are eligible.
 - Through Sec. 1706, Energy Infrastructure Reinvestment Program LPO has \$250 Billion in loan authority to retool, repower, repurpose or replace energy infrastructure (including transmission) that has ceased operations or enable operating energy infrastructure to avoid air pollutants.
- ▶ **Western Area Power Administration Transmission Infrastructure Program**
 - \$3.25 Billion in debt financing/development assistance for qualifying transmission projects with at least one terminus in WAPA's 15 state footprint and that facilitate delivery of renewable energy



Grid Resilience Funding Available through BIL

Formula Grants	Funding Amount	Next Milestones
Grid Resilience Formula Grants Preventing Outages and Enhancing the Resilience of the Electric Grid / Hazard Hardening (Sec. 40101(d))	\$2.3 billion	<ul style="list-style-type: none"> Application due May 31st, 2023
GRIP Program	Funding Amount	Next Milestones
Grid Resilience Industry Grants Preventing Outages and Enhancing the Resilience of the Electric Grid / Hazard Hardening (Sec. 40101(c))	\$2.5 billion	<ul style="list-style-type: none"> Concept Papers Due: December 16, 2022 DOE Response to Concept Papers: February 2023 Full Applications Due: April 6, 2023
Smart Grid Grants Deployment of Technologies to Enhance Grid Flexibility (Sec. 40107)	\$3 billion	<ul style="list-style-type: none"> Concept Papers Due: December 16, 2022 DOE Response to Concept Papers: February 2023 Full Applications Due: March 17, 2023
Grid Innovation Program Program Upgrading Our Electric Grid and Ensuring Reliability and Resiliency (Sec. 40103(b))	\$5 billion	<ul style="list-style-type: none"> Concept Papers Due: January 13, 2023 DOE Response to Concept Papers: March 2023 Full Applications Due: May 19, 2023

Learn More about the Grid Deployment Office

The Grid and Transmission Program Conductor acts as a clearinghouse for GDO's transmission and grid resilience financing programs

Find information on Grid and Transmission programs within:

- Bipartisan Infrastructure Law
- Inflation Reduction Act
- And other existing DOE transmission and grid programs

<https://www.energy.gov/gdo/conductor>

Grid and Transmission Program Conductor

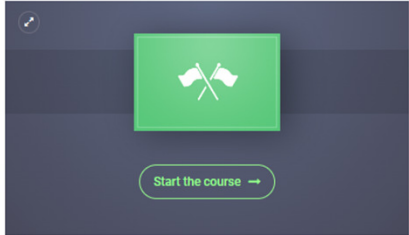
Grid Deployment Office

Grid Deployment Office » Grid and Transmission Program Conductor

The **Grid and Transmission Program Conductor** acts as a clearinghouse for GDO's transmission and grid resilience financing programs, as well as other existing DOE transmission and grid programs.

The Conductor consists of an interactive tool to find the opportunities best suited to individual projects. Scroll down to the [program summary](#) below or visit the [Conductor Guide](#) for more comprehensive information about the available funding opportunities and the application process.

Use this tool to find the best program for you:



Reuse Embed H-P

Programs Summary

	SOLICITATION	FUNDING MECHANISM	NEXT STEPS
Transmission Facilitation Program	Solicitation for loans, public private partnerships, and additional capacity contracts in Spring 2023	Capacity contracts, public private partnerships, and loans	Applications for the first round of the Transmission Facilitation Program closed on February 1, 2023, and the review process is underway.