



Transmission Update: DOE's Grid Deployment Office

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Rail Electrification Council Meeting
November 15, 2023



GDO's Mission

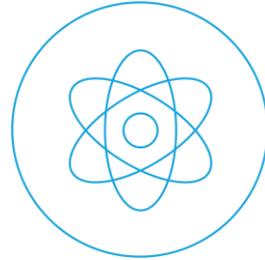
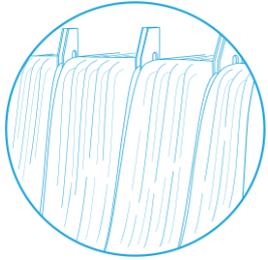
To provide reliable, affordable electricity to everyone, everywhere

Invest in electric infrastructure by...

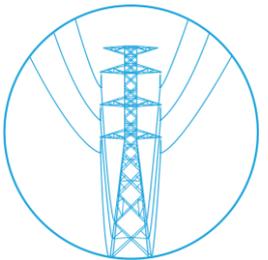
- ▶ Maintaining and investing in critical generation facilities
- ▶ Improving and expanding transmission and distribution systems
- ▶ Developing high-capacity electric transmission lines nationwide
- ▶ Providing access to technical assistance and national laboratory expertise, modeling, and analytical capabilities



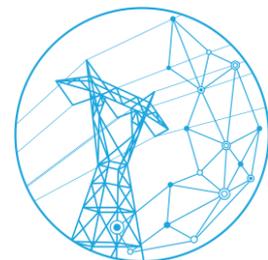
DOE's Grid Deployment Office



The **Generation Credits Division** works with existing generation facilities to ensure resilience and reliability and works to improve electricity markets at the wholesale and distribution level.



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.



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

GDO Funding at a Glance

Generation Credits	Transmission	Grid Modernization
<p>Civil Nuclear Credit Program: \$6 billion</p> <p>Hydro Incentives: More than \$750 million</p>	<p>Transmission Facilitation Program: \$2.5 billion</p> <p>Transmission Facility Financing: \$2 billion</p> <p>Transmission Siting and Economic Development Grants: \$760 million</p> <p>National Transmission Planning and Needs Studies; Offshore Wind Convenings</p> <p>National Interest Electric Transmission Corridor (NIETC) Designation Process</p> <p>Coordinated Interagency Transmission Authorizations and Permits (CITAP) Program</p>	<p>Grid Resilience State/Tribal Formula Grants: \$2.3 billion</p> <p>GRIP Program: \$10.5 billion</p> <p>Puerto Rico Energy Resilience Fund: \$1 billion</p> <p>Territory Recovery Assistance</p>
Annual Appropriations		





Recent Announcements

Grid Resilience and Innovation Partnerships (GRIP) Program

- ▶ \$10.5 billion in **competitive** grant funding to enhance grid flexibility and improve the resilience of the power system
- ▶ Three funding mechanisms:
 - **Utility/Industry Resilience Grants (\$2.5B)**
 - **Smart Grid Grants (\$3B)**
 - **Grid Innovation Program (\$5B)**

In October, GDO announced the first round:

- \$3.5B in federal funding
- 58 projects across 44 states

On November 14, GDO opened the second round:

- Up to \$3.9B in federal funding
 - Webinar November 20
- Concept papers due January 12



Transmission Facilitation Program (TFP)

What is it?

- ▶ \$2.5 billion revolving fund borrowing authority (from Bipartisan Infrastructure Law)
- ▶ Three tools: (1) capacity contracts; (2) public private partnerships; and (3) loans

Why is this program important?

- ▶ Provides federal support to overcome the financial hurdles associated with the development of large-scale new transmission lines, the upgrading of existing transmission, and the connection of microgrids in select States and U.S. territories

First RFP: Capacity Contracts

- ▶ Focus on “shovel ready” projects = begin construction by year-end 2027
- ▶ Projects would otherwise not be constructed, or be constructed with less capacity
- ▶ Strengthen resilience and reliability via interregional connections and resource diversity
- ▶ Community Benefits Plans, including labor agreements

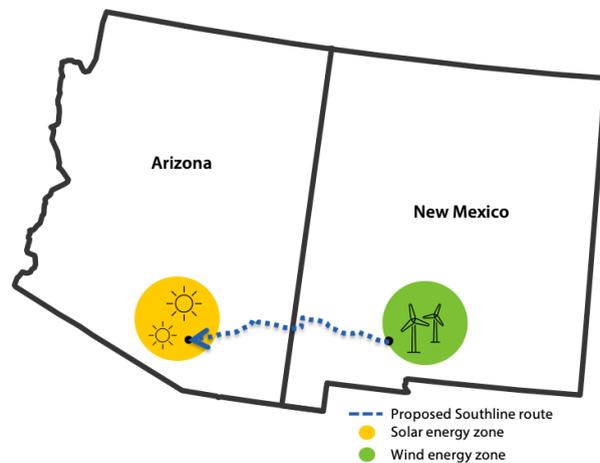


First RFP Selections

- ▶ Three capacity contract selections announced in October 2023
- ▶ Up to \$1.3B in value across all three projects

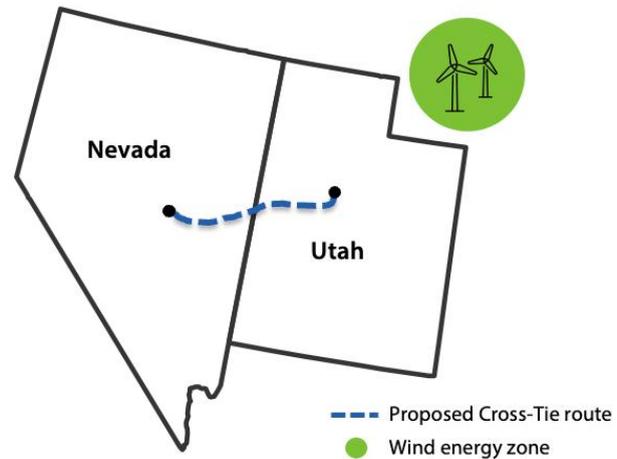
Southline

- 748 MW
- 175 miles



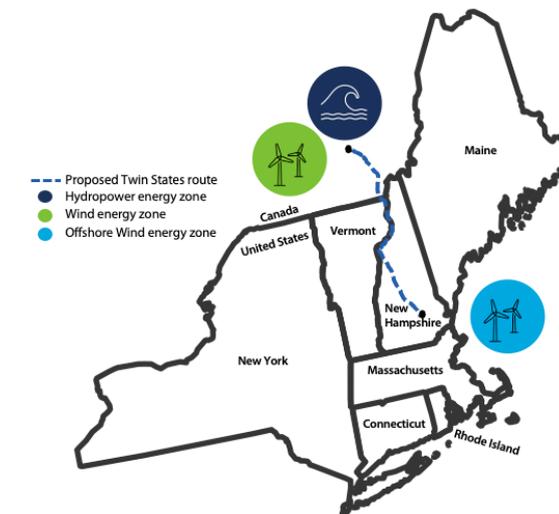
Cross-Tie

- 1,500 MW
- 214 miles



Twin States

- 1,200 MW
- 75 miles



National Transmission Needs Study

Federal Power Act § 216(a) directs DOE to conduct assessments of:
historic and expected transmission capacity constraints and congestion
every three years
with consultation from States, Indian Tribes, and regional grid entities

Serves as the Department's triennial [state-of-the-grid report](#)
Released October 30, 2023



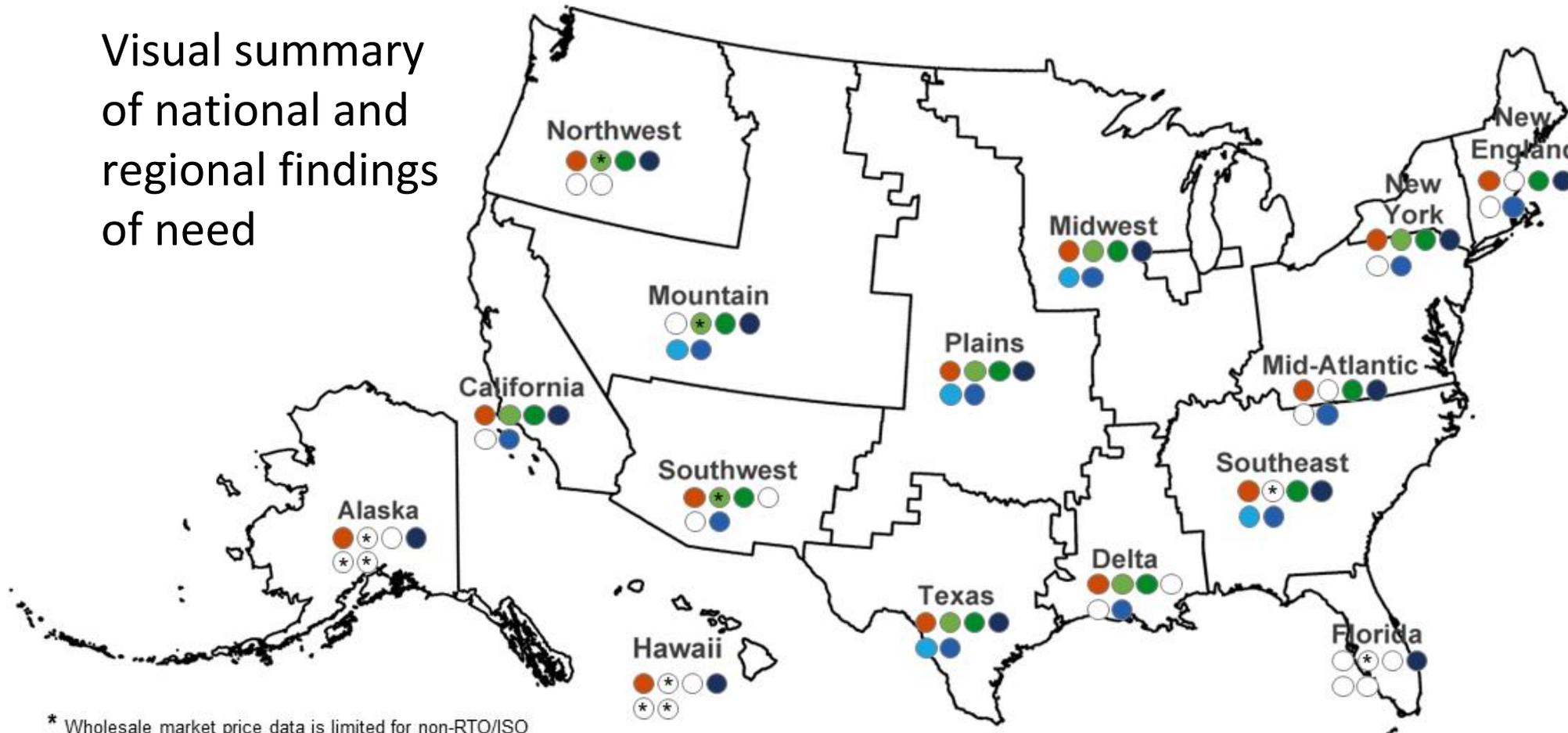
National Takeaways

1. There is a pressing need for new transmission infrastructure.
2. Interregional transmission results in the largest benefits.
3. Needs will shift over time.



Executive Summary

Visual summary of national and regional findings of need



* Wholesale market price data is limited for non-RTO/ISO regions and capacity expansion modeling data is limited for Alaska and Hawaii. Absence of data does not necessarily indicate that there is no need for new transmission.

Current or Anticipated Need:

Improve reliability and resilience	Alleviate congestion & unscheduled flows
Alleviate transfer capacity limits between neighbors	Deliver low-cost generation to high-priced demand

Anticipated Need:

Meet future demand with within-region transmission	Meet future demand with interregional transfer capacity
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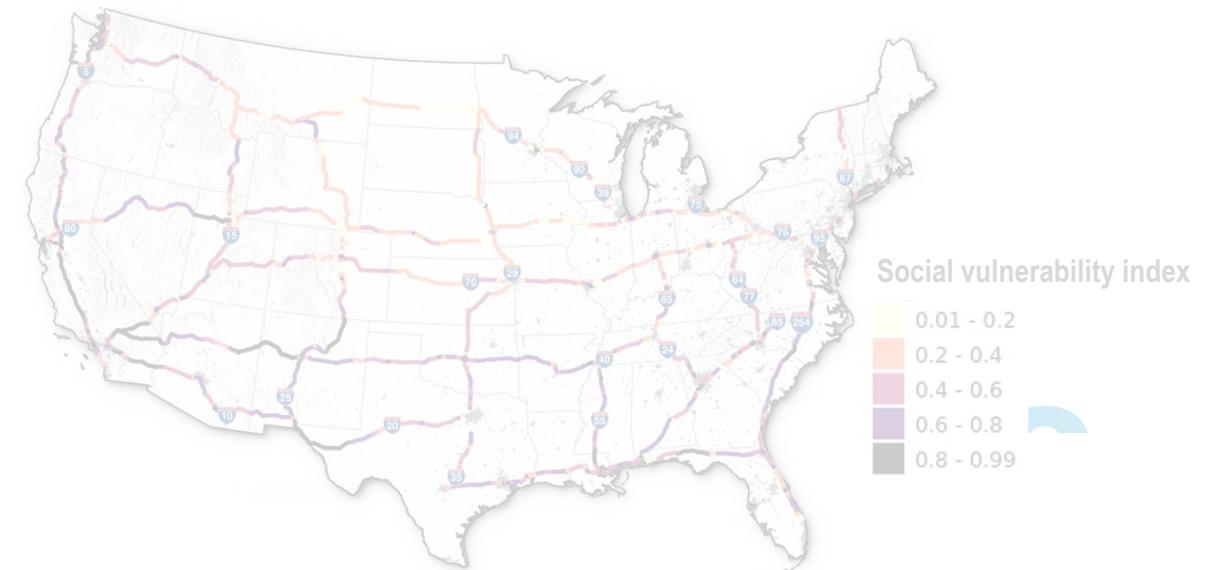
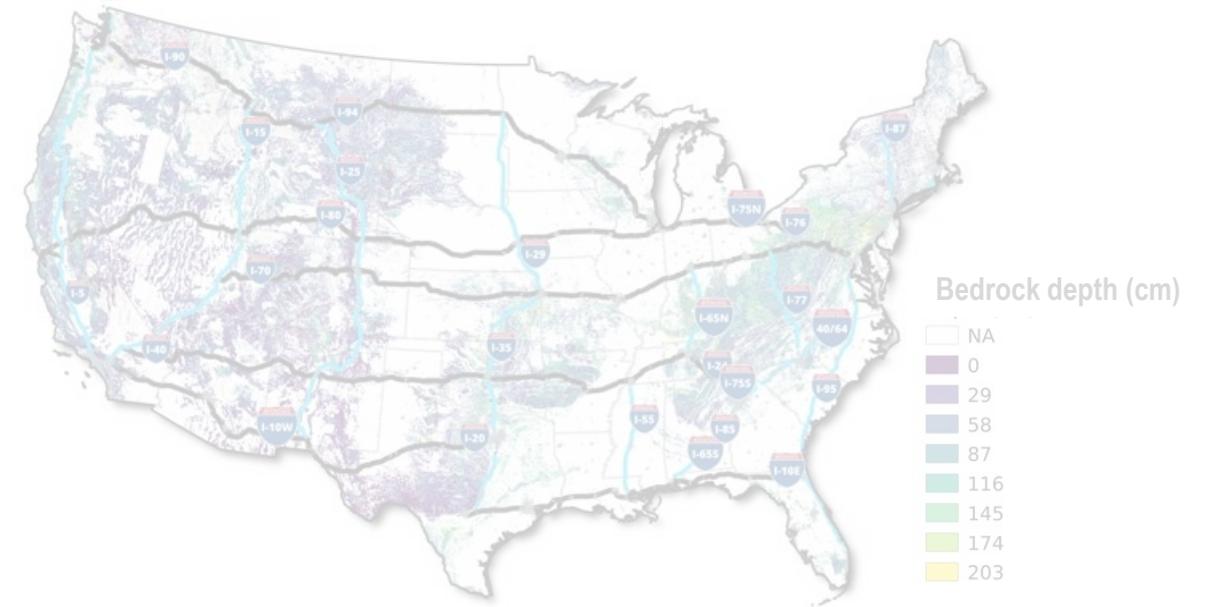
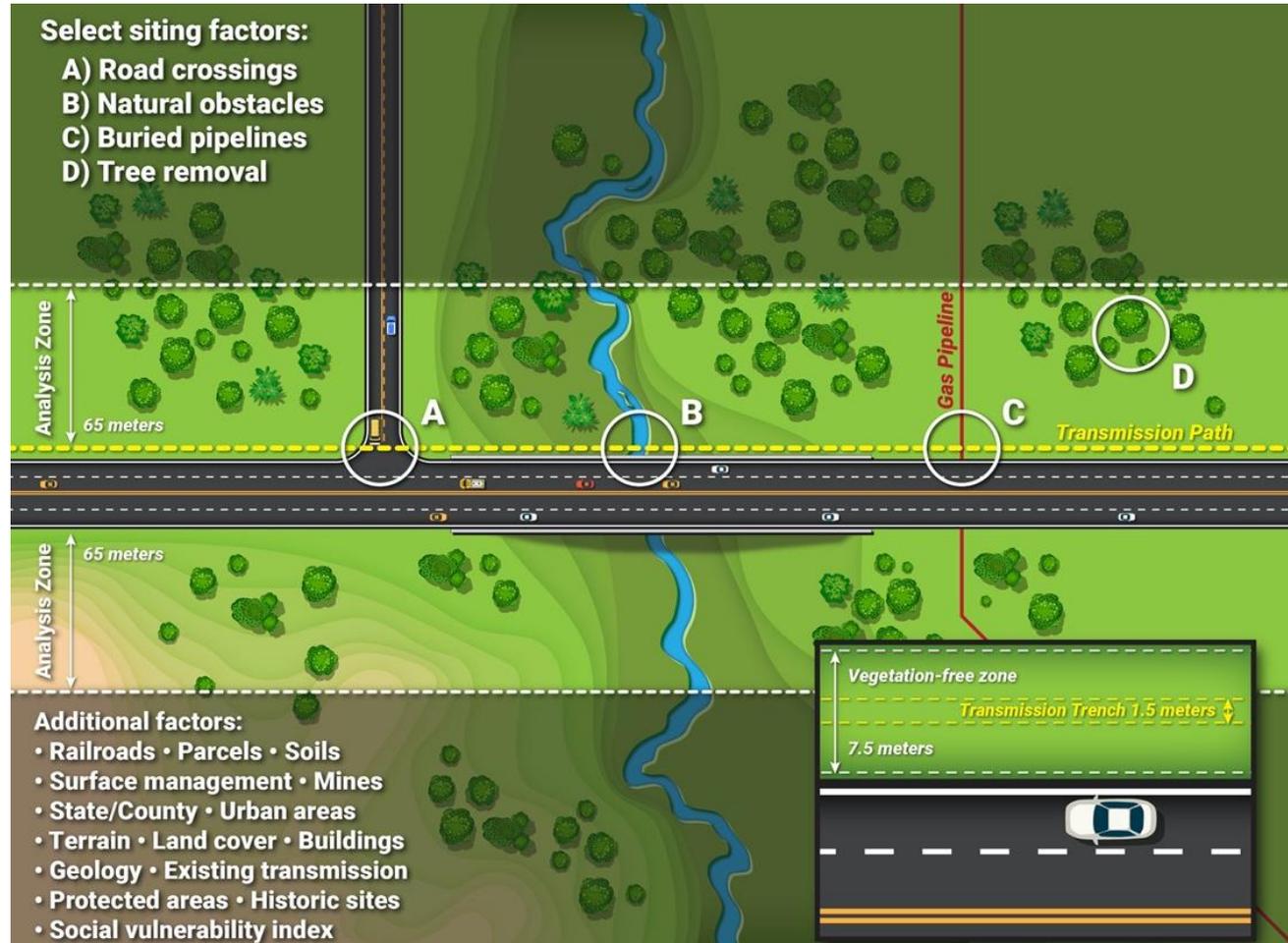




Existing Rights-of-Way

Needs Study – Key Takeaway: Co-location of transmission corridors is possible in some cases.

Analysis of buried HVDC along interstate highways



Lopez, A. National Renewable Energy Lab (2023)



Transmission Facilitation Program

Eligible project:

- ▶ Construction of a new or replacement transmission line of at least 1,000 MW;
- ▶ 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 MW; or
- ▶ Connection of an isolated microgrid *to an existing transmission, transportation, or telecommunications infrastructure corridor* located in Alaska, Hawaii, or a U.S. territory.

National Interest Electric Transmission Corridors (NIETCs)

- ▶ **Federal Power Act Section 216(a)**
 - Authorizes DOE to designate as an NIETC any geographic area that—(i) is experiencing transmission capacity constraints or congestion that adversely affects consumers; or (ii) is expected to experience such transmission capacity constraints or congestion.
 - Based on the results of the National Transmission Needs Study or other information plus additional discretionary statutory criteria
 - ***Section 216(a)(4)(G)(i) – DOE may consider whether the NIETC designation “maximizes existing rights-of-way”***
- ▶ NIETC designation focuses public and policymaker attention on greatest areas of transmission need, and **unlocks statutory tools** to advance transmission deployment, including:
 - Public Private Partnerships under the Transmission Facilitation Program
 - Transmission Facility Financing loans
 - FERC permitting authority under FPA section 216(b)
- ▶ Final guidance on designation process expected by end of 2023



Thank You!

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