NORTHEAST GRID PLANNING FORUM

A JOINT INITIATIVE OF ACADIA CENTER & NERGICA

Acadia Center

Advancing the Clean Energy Future

NERGICA Renewable Energy Research and Innovation

THE NORTHEAST GRID PLANNING FORUM

A COLLABORATIVE DIALOGUE FOR ENHANCED COORDINATION BETWEEN THE POWER GRIDS OF NORTHEAST NORTH AMERICA

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www.northeastgrid.org

UNITING NORTH AMERICANS FOR OUR NET ZERO FUTURE

THE NORTHEAST GRID PLANNING FORUM sees a future where a novel, collaborative approach to energy system planning empowers diverse stakeholders to ensure the future economic competitiveness and energy resilience of the northeast United States and eastern Canada.

Today, grid planning, development, and operations between the states and provinces occur in silos. Although there is a significant amount of inter-jurisdictional trade, the lack of coordination between jurisdictions is a barrier to capturing substantial mutual benefits.

THE NORTHEAST GRID PLANNING FORUM is a deliberative stakeholder process designed to formalize and deepen collaboration among northeast U.S. states and Canadian provinces around interregional energy system improvements, including grid planning coordination, two-way power flows and community engagement.

The Forum will be convened via three roundtable processes: 1) environmental justice and community mobilization, 2) interregional planning and 3) clean energy procurement and markets development. Working together and in close coordination with civil society, labor and industry, participating jurisdictions will create and deploy a shared policy, legal, regulatory and market/tariff toolset. This toolset will advance the development of the next-generation power network which will serve as the backbone of the energy transition across the region, capturing the climate, clean energy procurement and consumer benefits of grid integration.

WHY IS NOW THE TIME TO ACT?

- Communities are frustrated by rising power rates, concerns about reliability, and insufficient opportunities to meaningfully participate in planning and siting processes. The legacy approach to energy system development drives conflict over energy system infrastructure issues. A more coordinated and inclusive strategy would build trust by empowering communities and stakeholders to steward their own energy future as ratepayers, who ultimately will grapple with the consequences of failure.
- Our shared region lacks a process to prioritize and address broad concerns about reliability, affordability, climate, and responsive siting in the face of major grid modernization requirements. Cross-border coordination on these matters will help capture enormous economic and consumer benefits while helping us achieve our decarbonization goals.

A COMMON CHALLENGE, A MUTUAL OPPORTUNITY

THE CHALLENGE

Modernizing energy systems to provide reliable, affordable service that meets the climate challenge is a critical task now squarely facing governments, industry and citizens across the United States and Canada.

- To meet aggressive climate goals, independent studies predict this region must find ways to increase the output of its current power grids by two-fold or more. The required 'build-out' of new generation and transmission capacity will dwarf any recent expansion in the electricity system and touch the pocketbooks and communities of all residents.

- Consumers face issues with energy affordability, while businesses are searching for affordable, reliable low-carbon energy and power grid operators are charged with maintaining the reliability of an increasingly-complex system.

THE CURRENT DYSFUNCTION

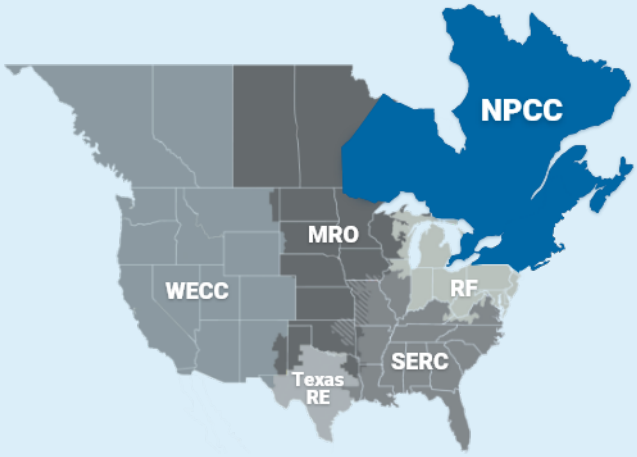
There is a significant amount of trade between US and Canadian jurisdictions, but a lack of coordination leads to a fragmented system that fails to fully capture potential mutual benefits.

- **CURRENT FOCUS PLACES PROJECTS AHEAD OF PROCESS:**

  Without any shared framework for planning and procurement, transmission projects are often developed in a highly risky and adversarial manner, creating tensions in communities, and leaving regulators with poor options. This hodgepodge approach does not allow a systematic effort to coordinate resources.

- **CURRENT COOPERATION IS LIMITED TO SHORT- AND MEDIUM-TERM RELIABILITY:**

  Frameworks for cross-border cooperation already exist: the Northeast Power Coordinating Council ensures grid reliability across the region. Ontario and Québec have launched grid planning discussions, and a DOE-Northeast States Collaborative is in formation. These collaborations too often focus on short- and medium-term reliability goals rather than solving for long-term decarbonization action that values planning efficiency and justice for stakeholders.



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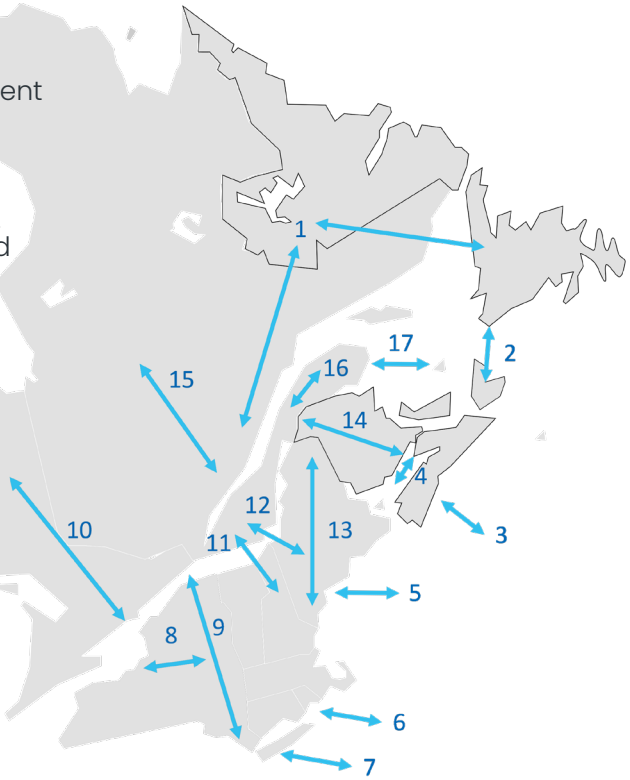
TARGET REGION: NORTHEAST POWER COORDINATING COUNCIL RELIABILITY ZONE
Source: npcc.org

A SNAPSHOT OF INTERRREGIONAL ISSUES AND OPPORTUNITIES

1. Churchill Falls renegotiation/ Gull Island development/ emerging demand on Québec's North Shore
2. Newfoundland Atlantic Loop/Offshore wind and hydrogen development/Coal-fired generation decommissioning
3. Nova Scotia 5GW offshore wind target/hydrogen development
4. Bay of Fundy tidal power development
5. Gulf of Maine floating offshore wind development
6. New England States Transmission Initiative for Offshore Wind
7. New York/Mid Atlantic offshore wind development
8. Clean Path NY (1,300MW)
9. Champlain Hudson Power Express (1,250MW)
10. OPG new northern hydroelectricity exploration
11. Eversource Northern Pass Transmission (1,100MW)
12. New England Clean Energy Connect (1,200MW)
13. Northern Maine transmission RFP
14. Atlantic Loop/Belledune retirement
15. New Québec hydroelectric development
16. Alliance de l'Estdevelopment of onshore/offshore wind
17. Cable project for the Magdalen Islands



COOPERATION IS A BETTER WAY TO POWER OUR REGION

Independent studies[1] show there are enormous mutual benefits to northeast provinces and states if the current piecemeal approach to developing and managing energy systems were supplemented with one based on mutual cooperation. Collaboration on energy system planning across the international border and between grids is an untapped opportunity in the decarbonization toolkit. The benefits of a decarbonized economy must accrue to everyone and address a century of detrimental impacts from fossil fuel use and we need all the tools available in the toolkit.

LAUNCHING A DIALOGUE FOR INTERREGIONAL ACTION

Building broad and sustained political legitimacy for clean energy is imperative. Barriers that are slowing the rate of progress must be addressed head on. These include most notably:

- Reforming how the balancing authorities and system operators' grids are planned and managed so that they prioritize reliable clean energy, climate, consumer, and equity goals in their mandates;
- Ensuring that clean energy investments prioritize improvements to the buildings and communities of those who suffer from poor health, housing, and transportation services; and
- Addressing community and stakeholder concerns with clean energy projects and infrastructure siting.

[1] *"Economic, Reliability, and Resiliency Benefits of Interregional Transmission Capacity: Case Study Focusing on the Eastern United States in 2035," GE Energy Consulting, 2022. https://www.nrdc.org/sites/default/files/ge-nrdc-interregional-transmission-study-report-20221017.pdf*

"National Transmission Needs Study," U.S. Department of Energy. October 2023. https://www.energy.gov/sites/default/files/2023-10/National_Transmission_Needs_Study_2023.pdf

"2050 Transmission Study," Reid Collins. 18 October 2023. https://www.iso-ne.com/static-assets/documents/100004/a05_2023_10_19_pspc_2050_study_pac.pdf

Dimanchev, Emil, Joshua Hodge, and John Parsons (2020) "Two-Way Trade in Green Electrons: Deep Decarbonization of the Northeastern U.S. and the Role of Canadian Hydropower", MIT CEEPR Working Paper 2020-003. https://ceepr.mit.edu/wp-content/uploads/2021/09/2020-003.pdf

SHARED BENEFITS ABOUND

Multilateral grid and energy system coordination and the potential for dynamic, two-way power flows between the provinces and states offers numerous benefits:

Improved power reliability and system balancing

Lower energy costs

Lower decarbonization costs

Faster displacement of polluting fossil fuels

Opportunities to expand investments in energy efficiency

Greater certainty over project development and costs

Improved planning, siting and permitting processes

Greater inclusion of communities and stakeholders who are often sidelined from energy system decision-making

By catalyzing discussions amongst energy planners, government leaders and community and stakeholder interests, NGPF seeks to deepen the conversation about the potential benefits of coordination and facilitate thoughtful, cross-border responses to the wide range of policy and social concerns regarding energy system planning.

Interregional grid coordination can include a wide range of planning, investment, market design, community benefits and operations approaches. Issues to address in any formulation must include:

PRIORITIES

1

Energy planning processes that forecast demand and consider how clean energy resources can reliably meet that demand in the lowest-emitting manner and at the lowest cost while addressing local stakeholder needs

2

Energy infrastructure development to support dynamic, interjurisdictional power flows

3

Market mechanisms that provide transparent information on emissions and costs and treat clean energy resources in both countries as complementary to one another

JOIN THIS GROUNDBREAKING INTERREGIONAL EFFORT

Numerous experts, regulators, political appointees, and advocates in both the US and Canada have given support for these concepts and are interested in participating in further conversations.

We invite your participation and interest. Please connect with us for more information:

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ACADIA CENTER

Acadia Center's mission is to advance bold, effective clean energy solutions for a livable climate and a stronger, more equitable economy.

Grounded in impactful data analysis and inclusive partnerships and collaboration, we promote economic and environmental policies that will dramatically reduce carbon emissions while providing consumer, economic, and equity benefits. Working at the intersection of government, industry, grassroots organizations, advocates and communities, Acadia Center develops ambitious, effective solutions for our region's systemic energy challenges.

Together with policymakers, environmental justice partners, and donors, we can build an energy system that puts people front and center, shifting conversations to promote equitable solutions. We work to amplify voices that are not always heard or heeded, striving to find common ground so that our communities have clean, healthy, affordable energy so we all can thrive.

NERGICA

Nergica's mission is to accelerate the development and the adoption of renewable energy. Nergica is a nonprofit centre of applied research that stimulates innovation in the renewable energy industry through research, technical assistance, technology transfer and technical support for businesses and communities.

Their accomplished team of experts have access to research infrastructures operating in a unique natural environment.

Firmly entrenched in the applied research networks of Quebec and Canada, Nergica collaborates closely with industry players, research centres, international authorities, developers, and small and medium-sized enterprises. They are a College Centre for Technology Transfer (CCTT) affiliated with the Cégep de la Gaspésie et des Îles, and recognized as a Technology Access Centre (TAC) by the Natural Sciences and Engineering Research Council of Canada (NSERC). Nergica is the representative of Canada for Tasks 19, 32 and 41 of the International Energy Agency (IEA) Wind Technology Collaboration Programme.

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