New England States Committee on Electricity

5th Annual

RENEWABLE ENERGY CONFERENCE

Powering Investments

April 27, 2010

Halifax, NS

Anything I say represents my own views.

Not necessarily NESCOE's.

Overview

1. ABOUT NESCOE
2. GOVERNORS' RENEWABLE ENERGY BLUEPRINT
3. EASTERN WIND INTEGRATION & TRANSMISSION STUDY
4. EASTERN INTERCONNECTION PLANNING

What's NESCOE?

New England's FERC-approved Regional State Committee

PURPOSE: To Represent The Interests Of The Citizens Of The New England Region By Advancing Policies That Will Provide **Electricity At The Lowest Possible Price Over The Long Term**, Consistent With Maintaining **Reliable Service** And **Environmental Quality**

More Information @ www.nescoe.com

NESCOE Governance

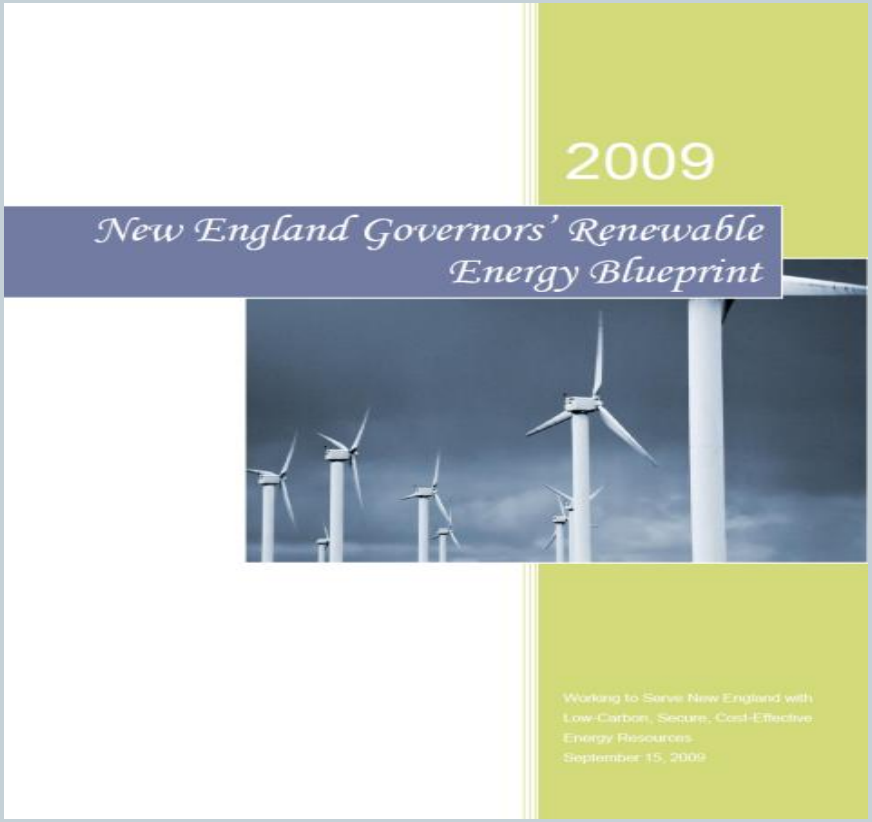
- **Governed by a board of Managers appointed by each of the New England Governors**
  - Issue by issue, Governors' energy policy advisors, others, active as well
- **Work closely with New England Governors Conference & New England Conference of Public Utility Commissioners**
- **States' Voting Rights**: **"…NESCOE will make policy determinations with a majority vote ….*and* a majority weighted to reflect relative electric load of each state within the region's overall load."**
- **To date, lots of agreement**

Substantive Focus

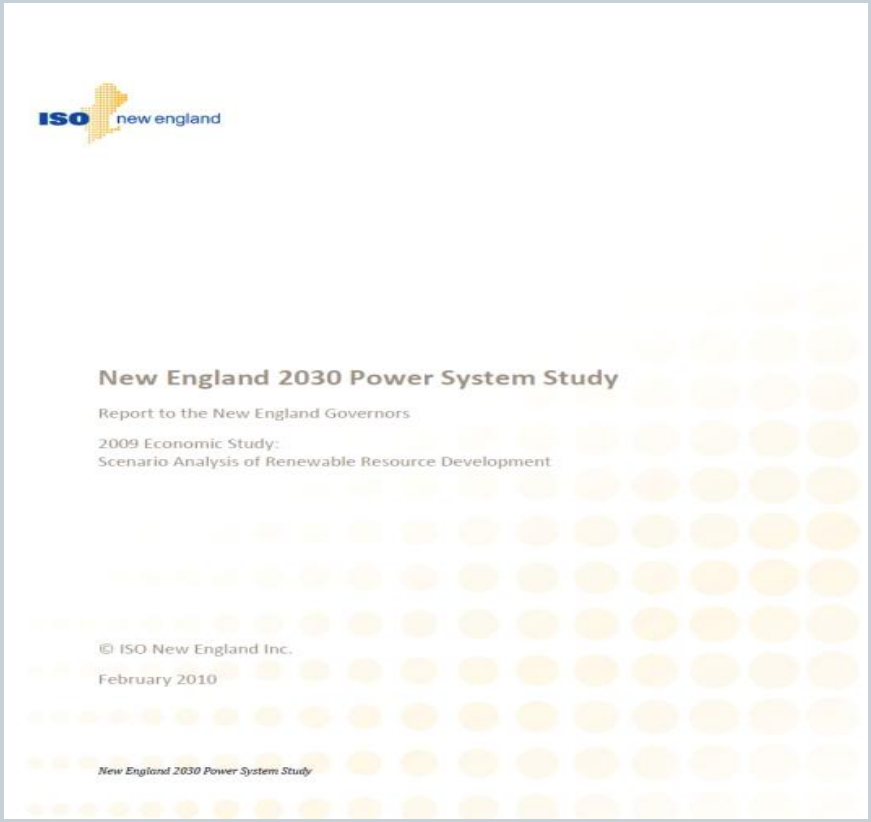
System Planning & Expansion	Resource Adequacy
For example: ➢ Regional System Plan ➢ Eastern Interconnection Planning	For example: ➢ Installed Capacity Requirements ➢ Tie benefit values

New England Governors' Renewable Energy Blueprint

Policy



Technical Analysis



The Blueprint's Road

September 2008	Governors' Resolution
February 2009	Governors write to President Obama, Congress
March 2009	States request ISO-NE technical analysis
July 2009	ISO-NE issues draft Renewable Development Scenario Analysis (finalized, 2010)
September 2009	Governors Adopt Blueprint
Today	States work on coordinated procurement
Tomorrow figuratively	Talk with Canadians, via NICE, about procurement

Policy Choices Informed By Data

- States asked ISO-NE to study "significant sources of renewable energy available to New England, the most effective means to integrate them into our power grid, and the estimated costs" and then developed study assumptions
- ISO-NE renewable study
  - Looks out 20 years
  - 9 *conceptual* transmission scenarios
  - Focus on wind resources
    - Up to 12,000 MW of wind in New England
    - 7,500 MW onshore & 4,500 MW offshore
    - Incremental cases from 2,000 to 8,000 MW

Conclusion: Ample Resources, Choices

- The New England region has a vast quantity of untapped renewable resources
- More than 10,000 MW (nameplate) on & off-shore wind power potential
- If developed at conservative levels, there are ample renewable resources to enable New England to meet renewable energy goals
- More aggressive development could enable New England to export renewable power to neighboring regions

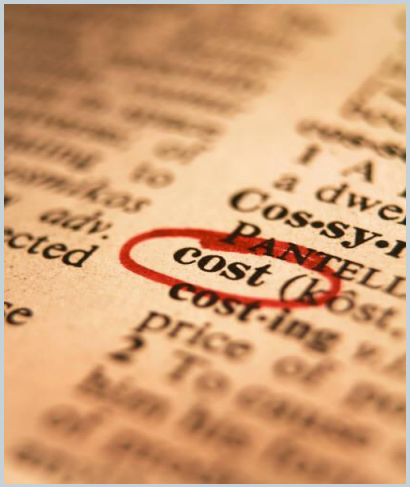
Conclusions: Facilitation Opportunities

New England states have:

- Cooperative experience, inclination & authority to do more
- Siting processes that enable coordination
- Long-term contract approval mechanisms

Common contracting themes:

- Procurement via competitive processes
- Interest in securing **low cost, cost-effective or cost-stabilizing power**



New England Governors' Blueprint Resolution

Governor **John Baldacci** Maine | Governor **Deval Patrick** Massachusetts | Governor **M. Jodi Rell** Connecticut | Governor **John Lynch** New Hampshire | Governor **Donald L. Carcieri** Rhode Island | Governor **Jim Douglas** Vermont

BE IT FURTHER RESOLVED that the New England Governors authorize their regulatory and policy officials to use the Blueprint as a resource to help support development of New England's renewable resources in their public advocacy, rule-making, policy development and other initiatives; and

BE IT FURTHER RESOLVED that the New England Governors authorize their regulatory and policy officials to review the availability of renewable resources in the region, including those identified in the Blueprint, and to consider potential mechanisms for the joint or coordinated but separate competitive procurement of renewable resources, and to report the results of such a review to the Governors within the next twelve months.

Governors' & Eastern Canadian Premiers' Renewable Energy Resolution

BE IT FURTHER RESOLVED THAT the New England Governors and Eastern Canadian Premiers wish to provide clarity to renewable energy producers and through the NICE, will initiate a meaningful dialogue between the states and provinces on the types of contract structures, pricing mechanisms and regulatory approvals that may offer the best opportunities for success in the New England and Eastern Canadian electricity marketplaces; and

BE IT FURTHER RESOLVED THAT this dialogue will consider potential terms and conditions for the procurement of regional power and a sample regional *Request for Proposal* for the procurement of renewable power (including energy, capacity, reserves, etc.) that could serve as a model for future solicitations.

What smart people do with Governors' Resolutions…

Form a Team

Renewable Procurement Work Group

- Assessing state procurement practices, processes
- Looking for coordination opportunities & ways around impediments
- Developing sample regional RFP
- Considering procurement levels

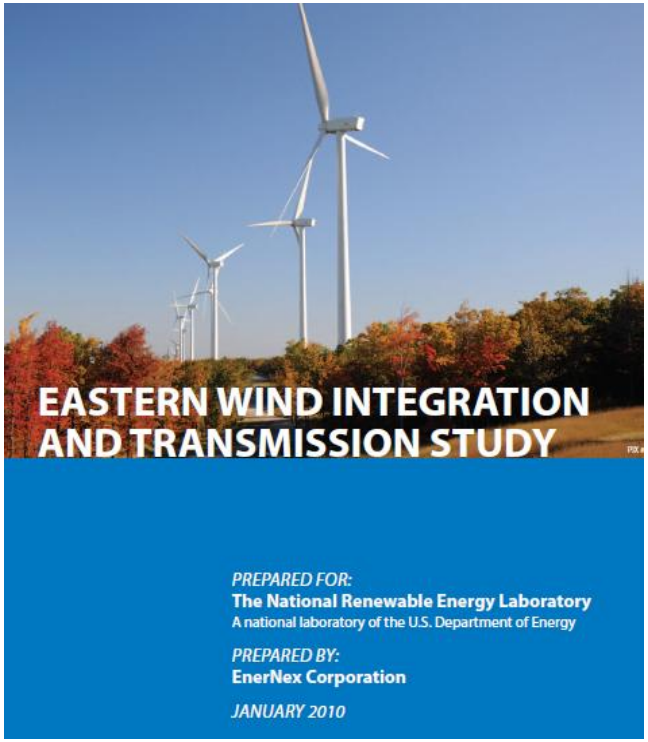
- Thinking about pricing structure alternatives,

  model terms & conditions,

  potential contract approval process options
- Making progress, not commitments
- **Reporting to Governors Summer 2010**

Meanwhile…

Eastern Wind Integration and Transmission Study (EWITS)



U.S. Department of Energy study, by its National Renewable Energy Laboratory

EWITS' Purpose

"to examine the **operational impact of up to 20-30% energy penetration of wind** on the power system in the Eastern Interconnect of the United States…

to answer questions that utilities, regional transmission operators, and planning organizations had **about wind energy and transmission development in the east**."

More info: http://www.nrel.gov/wind/systemsintegration/ewits.html

EWITS at a Glance

- 2.5 year, DOE-funded study
- Intended to provide objective analysis to U.S. policymakers
  - EWITS looks at existing system, load grown to 2024
  - Picked “best” wind resources to meet 6%, 20%, 30% renewable goals
  - Designed conceptual cross-country transmission overlays to accommodate “economic” result

EWITS Conclusions

Lots of wind can be integrated.

If we build *lots* of transmission.

There will be benefits (*benefits?)* because *lots* of transmission would move *lots* of mid-west generation (*other than wind?)* to the east coast.

NESCOE Concerns, Questions

- **Coal By Wire:** Conceptual transmission expansion isn't all about wind. Likely to increase generation from mid-west traditional sources.
  - **Wasn't the point carbon control?**

- **Transmission Feasibility & Cost:** Material operations issues & associated costs understated? in-region transmission costs? costs to keep current generators needed for reliability on-line?
  - **If intended to inform policymakers, costs to consumers & operational issues must be fully identified**

- **No Regional Renewable Development Analysis**: What about other ways to meet the same goals?
  - **Policy discussions must be informed by data including comparisons – cost, technical feasibility, carbon impact – of meeting renewable goals through development of resources in and around New England (*and then*, competitive processes rather than planners need to identify which resources can serve consumers cost-effectively …)**

And a Concern You May Share

Canadian Resources

EWITS assumed minimal expansion

What about vast low carbon Canadian power that is, from New England consumers' vantage point, right here?

EWITS Transmission – All West to East

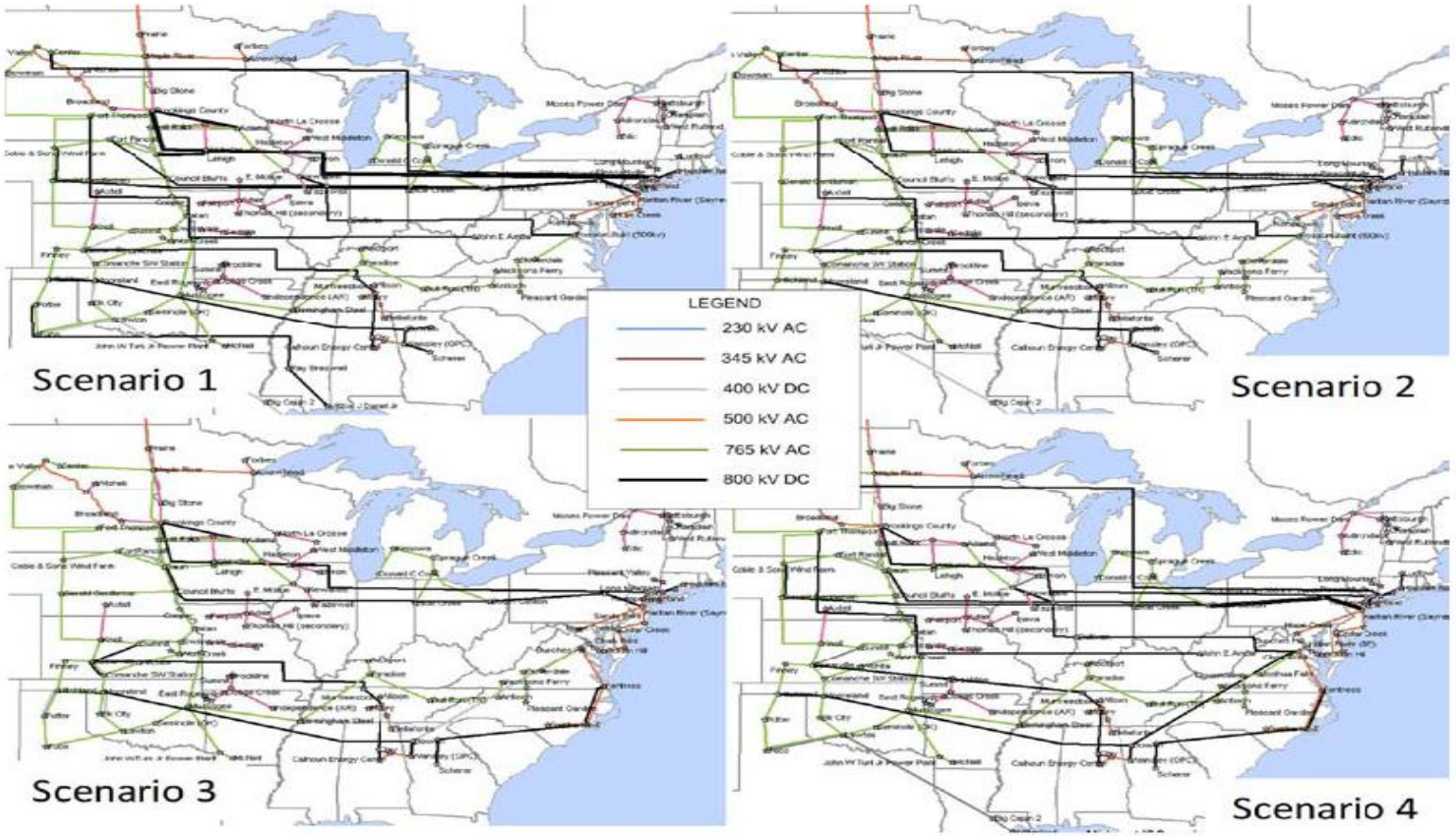


Figure 8. Conceptual EHV transmission overlays for each study scenario

EWITS West to East Bias

- West has lots of wind, minimal load
- Loop flows favor west - east over north - south orientation
- Canadian wind data not available
- Therefore, only wind outside U.S. considered is 5 GW over a New England/Quebec tie
- Technical Review Committee recommended looking at Canadian resources in the future. No current funding to do so.

Without more work, EWITS informing policymakers with…

No regional renewable development scenario analysis

Assumption of only wind outside U.S. - 5 GW over a Quebec tie

West to East Bias

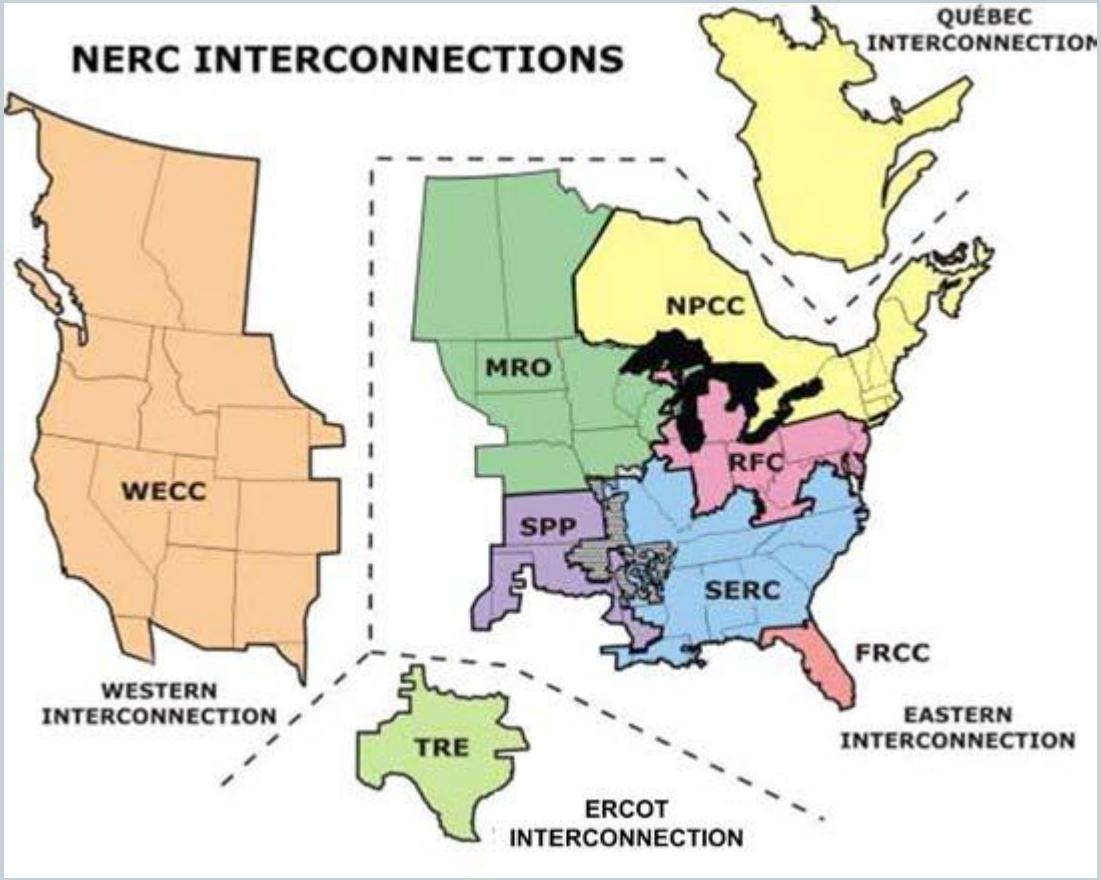
Eastern Interconnection Planning

DOE STATEMENT OF PURPOSE

To Facilitate The Development Or Strengthening Of Capabilities In Each Of The Three Interconnections In The Lower 48 States Of The United States

To Prepare **Analyses Of Transmission Requirements** Under A Broad **Range Of Alternative Futures** And **Develop Long-term** Interconnection-wide **Transmission Expansion Plans**

What is the Eastern Interconnection?



all this

What's in the Eastern Interconnect?

Geography

Most of Eastern North America, from the foot of the Rocky Mountains to the Atlantic seaboard

39 States, Including New England

- Some restructured like most of New England. Some not
- Some with competitive markets like New England. Some not
- Some with renewables like New England & the Midwest. Some not

24 Planning Authorities

- ISO-NE, NYISO, companies, etc.
- **Canadian participation from Ontario's IESO**
- All with unique processes

Goal is consensus

Organizations Created To Do The Job

Eastern Interconnection Planning Collaborative (EIPC)

- Planning Authorities' Organization ($16M from DOE)
- To perform Interconnection-Level Analysis & Planning
- The transmission engineering part
- Will take policy guidance from a *Stakeholder Steering Committee*, of which at least 1/3 must be states per the DOE; size & composition not yet firm
- **Canadian Provinces have 1 seat**
- More info: http://eipconline.com

Eastern Interconnection States' Planning Council (EISPC)

- State Organization ($14M from DOE)
- To enable state coordination on analysis
- The policy part to inform EIPC technical analysis
- Two designees per state: 1 utility commissioner, 1 Governor's representative

EIPC Work Plan

Step 1. Create Reference Case
EIPC to roll regions' 10-year plans up into interconnection-wide case

Step 2. Develop Macroeconomic Future Scenarios (8)
Forecast how the eastern interconnect power system might evolve over a range of potential policy & economic futures
sensitivities such as RPS goals, fuel cost, carbon allowances

Step 3. Select Transmission Scenario Build-outs (3)
Expansion scenarios for interregional transmission options
Look at production costs, high level cost estimates for expansion options

EIPC Final Report to DOE June 2012

Eastern Interconnection Planning Valuable if…

- **Goals are clear from the get go. *Is it to build massive transmission or to serve consumers cost-effectively?***

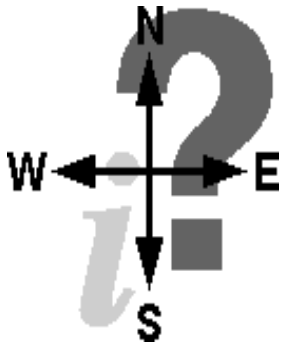
- **Develop credible reference case to enable rationale comparison to hypothetical future scenarios**

- **Degree of states' guidance reflects degree to which outcome will impact the public**

And….

- **Canadian resource potential is recognized**

- **EWITS-style West to East bias is avoided**



Jump in. It'll be fun.

Thanks.