

Northeast Regional Wind Summit

Panel ~ Emerging Policy Landscape

July 19, 2016

New England States Committee on Electricity



NESCOE is New England's Regional State Committee, governed by a Board of Managers appointed by each of the New England Governors to represent the collective views of the six New England states on regional electricity matters.

- ✓ **Focus:** Resource Adequacy, System Planning & Expansion
- ✓ **Resources:** 6 full-time staff with diverse disciplines & experience. Consultants, primarily for transmission engineering & independent studies
- ✓ **More information:** including filings & comments at
 - www.nescoe.com
 - Twitter @NESCOEStates

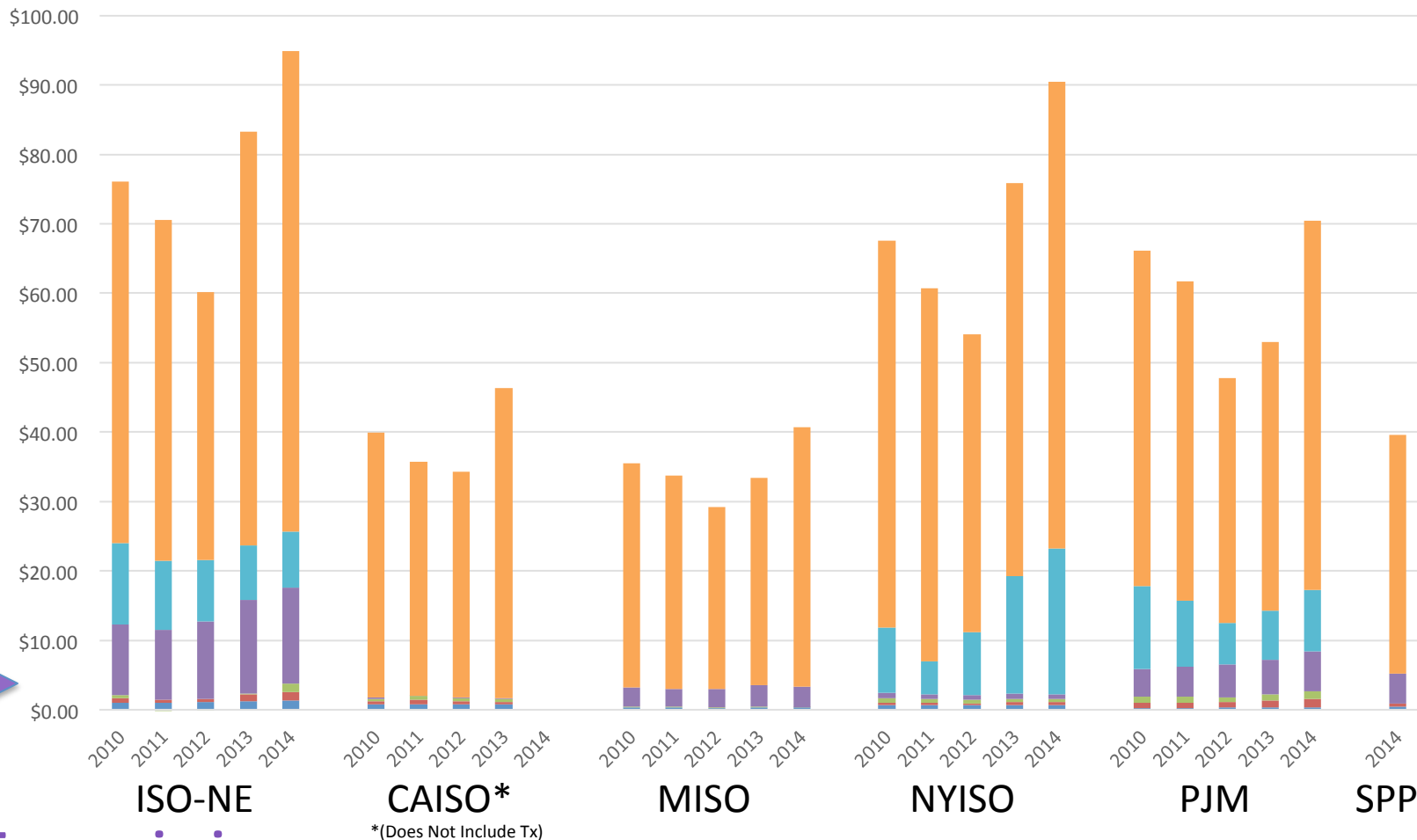
Overview

- ✓ Transmission Investment; Potential Value of Competitive Dynamics
- ✓ FERC Order 1000 ~ Public Policy
- ✓ Multi-State Clean Energy RFP
- ✓ Policies and Markets, NEPOOL Solutions' Exploration
- ✓ NESCOE Clean Energy Mechanisms 2.0 Study

New England has invested in reliability-based transmission, more than other regions from 2010 forward

Wholesale Power Cost Breakdown, 2010-2014 (\$/MWh)

■ RTO Cost & Regulatory Fees ■ Operating Reserves ■ Ancillary Services
■ Transmission ■ Capacity ■ Energy

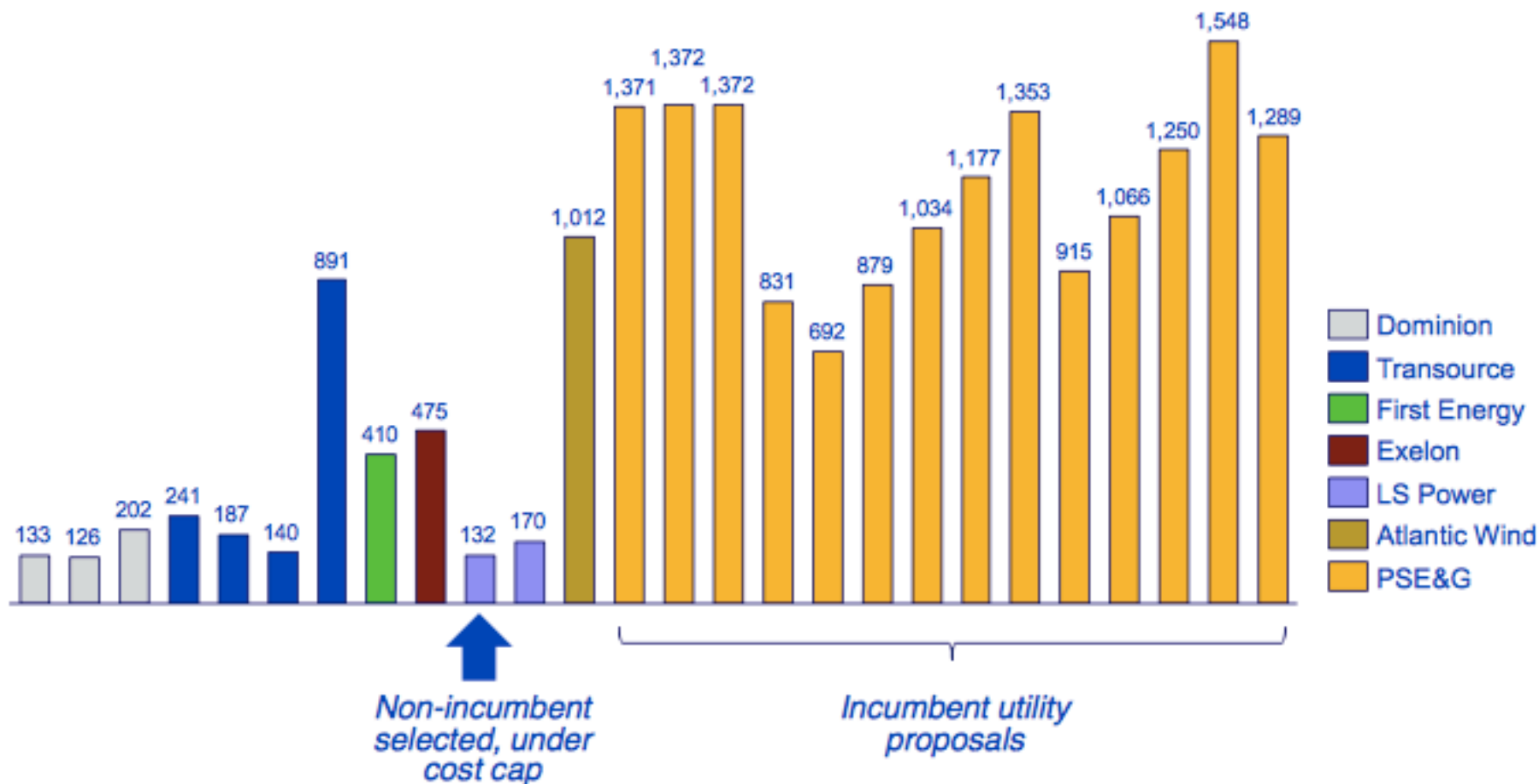


Data source: 2015 ISO/RTO Metrics Report

Competition in (reliability) Transmission Development

Good Results for Consumers Elsewhere

Illustration: Cost Variation in Bids



FERC's Order 1000 on Public Policy

- ✓ NESCOE*/5 States challenging FERC's compliance orders at D.C. Circuit
- ✓ FERC unlawfully expanded the rule to require project *selection* rather than *consideration* of public policies

The problem with Order 1000 is not academic

By requiring project selection and at the same time denying states a central role in that process, FERC substitutes ISO-NE judgment for the judgment of state officials implementing state laws.

* Maine is not participating in the challenge

What's the Vision?

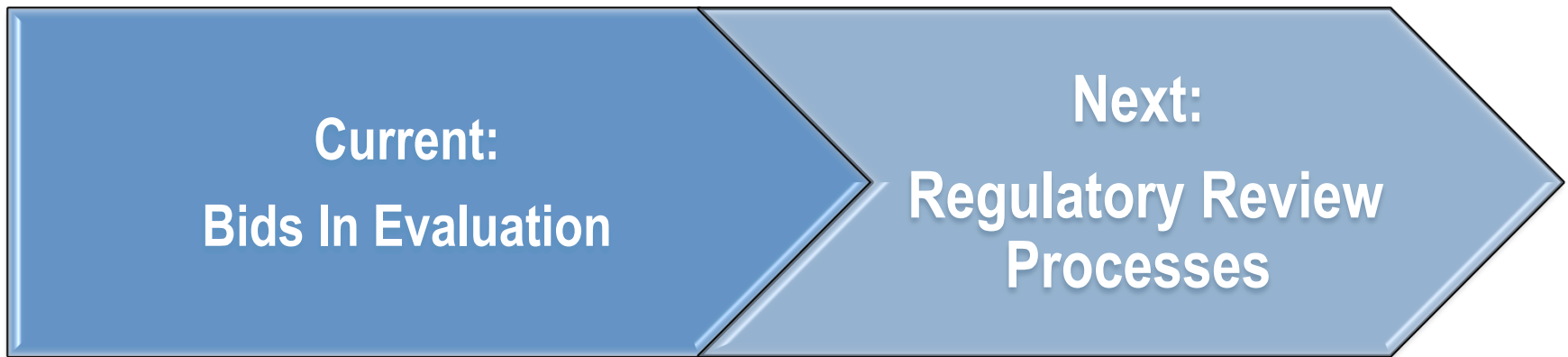
The half of ISO-NE
that determines how
to *transmit* electricity
must consider
state public policies
under Order 1000



The half of ISO-NE
that determines what
resources will
generate electricity
generally
does not consider
state public policies

Multi-State Clean Energy RFP

To explore whether a multi-state procurement might attract larger-scale projects and transmission than single state procurements and achieve individual states' clean energy goals more cost effectively than if each state proceeded on its own.



No obligation to procure anything at all

RFP Issuers jointly and individually evaluate bids

Each state, EDC uses own authority, criteria, judgment

Proposals with No Transmission

CleanEnergyRFP.com

SOLAR PROJECTS (no transmission)

Ameresco

20MW
New Milford, CT

EDP-ibvogt Solar

Eight projects
Range from 22MW - 54 MW
CT, MA, RI

GRE 501 MIRA

20MW
Windsor, MA

Deepwater Wind

26.4MW
Simsbury, CT

RES America

Two 20MW projects - assumed solar
Type and location redacted

Ranger Solar

Five projects
4 50MWs
1 20MW
CT, ME, NH

Wind Projects Proposals with No Transmission

Antrim Wind

28.8MW
Antrim, NH

Blueberry Hills

249.9MW
Cherryfield and Deblois, Maine

Canton Mountain

22.8MW
Canton, Maine

Cassadaga Wind

126MW
Cherry Creek, New York

Weaver Wind

72.6MW
Eastbrook, Maine

Hydro Dam - RECS Only (no transmission)

Conowingo by Exelon

572MW
Conowingo, Maryland

FUEL CELL PROJECT (no transmission)

Beacon Falls Energy Park

63.3MW
Beacon Falls, CT

Transmission Proposal with Associated Generation

www.CleanEnergyRFP.com

1. Clean Energy Connect

600 MW HVDC from Alps Substation in NY to Berkshire Substation in western MA

2. Vermont Green Line

400 MW HVDC from Plattsburgh, NY, under Lake Champlain to New Haven, VT

3. Northern Pass*

1090 MW HVDC from Quebec to Deerfield, NH

4. Maine Renewable Energy Interconnect

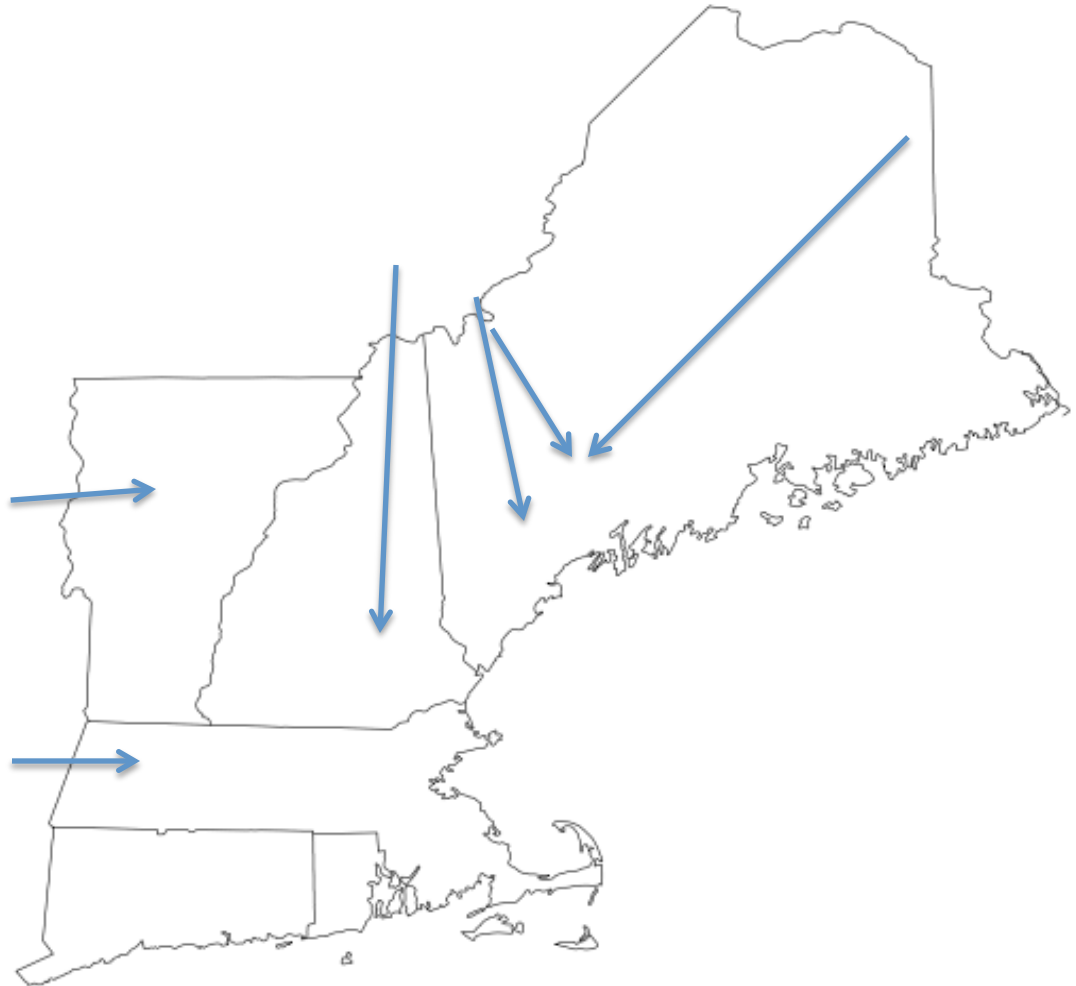
345 kV joint project of CMP and Emera ME, running from a new Hammond Substation in Hammond ME to a new substation in Pittsfield, ME

5. Maine Clean Power Connection

345 kV CMP project running from a new substation in Johnson Mountain Township, ME to a new substation in Pittsfield, ME

6. Evergreen Express

345 kV joint project of New Hampshire Transmission and CMP, running from a new Jim Pond Switching Station to Larrabee Substation



* Northern Pass is the only project that proposes a delivery commitment model rather than a power purchase agreement 10

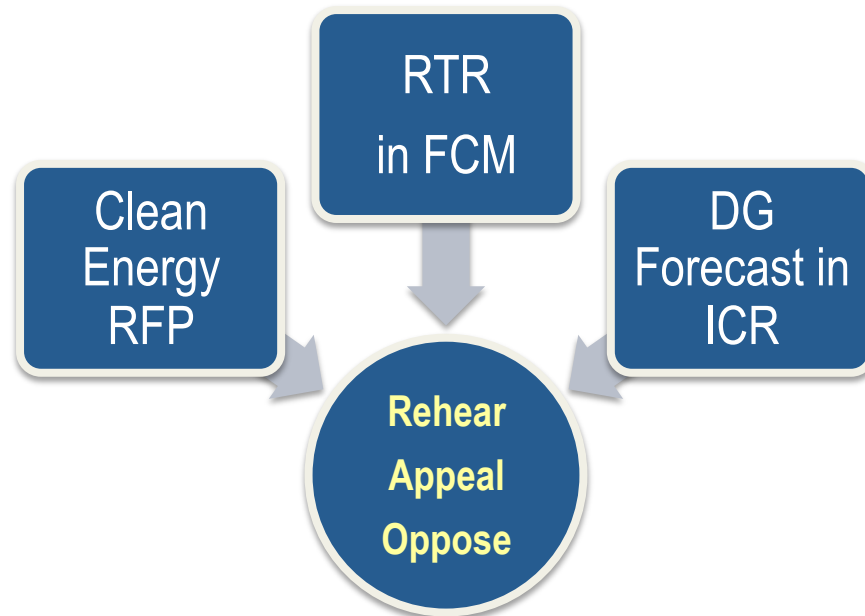
Green Tracking

- ✓ Verification of clean energy attributes for imported power is critical if Canadian resources wish to be credited with helping states satisfy carbon reduction requirements or environmental objectives
 - No uniform structure currently in place in Eastern Canada to measure, verify, and track emissions characteristics of imports into New England.
- ✓ In 2013, N.E. Governors and Eastern Canadian Premiers adopted a resolution encouraging Canadian provinces to evaluate existing options and opportunities to adopt verification mechanisms of generation sources and environmental attributes that correspond with the existing New England Power Pool GIS verification system
 - **Recent changes to NEPOOL GIS rules to facilitate tracking *but corresponding changes* likely needed on other side of the New England's borders.**

States have long supported New England's competitive wholesale markets.

Some states are obligated as a matter of law to implement energy and environmental policy requirements, and will seek to do so in the most cost-effective way.

Despite the requirements of law, some generators have to date opposed the execution of state energy and environmental policies



Example:

Litigation Over A Modest Clean Energy Mechanism in the FCM “Renewable Technology Resource” Exemption

In February 2016 auction, 55 MW of new renewable resources cleared under the exemption for a total of 72MW in two years – making the exemption roughly .2% of the total resources procured

- Generators challenged the RTR Exemption at FERC -
 - FERC disagreed
- NRG, PSEG, NextEra petitioned for review in the D.C. Circuit. Entergy supported.
 - The Court remanded to FERC
 - FERC rejected the litigants challenges and upheld the justness/reasonableness of the exemption
 - Litigants asked for rehearing
- Some challenge the RTR Exemption at every corner
 - by seeking to tie it to the DG Forecast
 - in stakeholder discussions about other proposed market changes to advocate for changes more favorable to them

2016 – The Year For Forward Movement on State Policies + Wholesale Markets

1. Competitive markets must accommodate state policies in order for markets to be sustainable over the long-term

2. States must execute state policies – with or without generators' support, in- or out-of-market as needed

3. Even if litigating generators "succeed" to weaken in-market mechanisms, it won't eliminate state energy and environmental laws

**NEPOOL
Commencing
Stakeholder
Conversations
on Potential
Solutions**

Policies & Markets: The Problem

- Organized markets meet resource adequacy at the lowest price - nothing more, nothing less - and do so in a way that is resource neutral or blind to policy objectives.
- Other than through the RTR exemption, the current organized markets do not - *by design* - generally include resources that can satisfy policy objectives that currently require, for whatever reason, additional non-market revenues to operate.
- To be sustainable over time, markets must reasonably accommodate various policy requirements such as, for example, carbon-emissions reductions or fuel source diversity.

Policy & Market: Design Objectives

Solutions Should...

- Enable reaction to different market conditions and changing public policy priorities over time
- Focus on achieving longer-term goals (10-30 years) cost-effectively, with the ability to incorporate needed shorter-term mechanisms to achieve near-term policy requirements
- At a minimum, enable the achievement of the current RPS requirements of each state
- In the near-term, consider the need to accomplish current policy objectives under discussion including, for example, up to 2,400 MWs of hydropower and 1,200 MWs of on- or off-shore wind
 - These numbers are illustrative and could vary according to the outcome of current matters, including but not limited to the three-state Clean Energy RFP
- Consider mechanisms to ensure consumers in any one state do not fund the public policy requirements mandated by another state's laws
- Attempt to minimize short-term financial effects to current existing resources

Policy & Markets: Design Objectives

Solutions Should Not ...

- Imprudently increase costs to consumers over the costs that they would incur under the status quo
- Over the long-term, include out-of-market mechanisms unless those ultimately are determined to be required in order to meet the objective and limit overall costs of the design
 - markets are not an objective themselves; they are a means to place risk with shareholders and to serve consumers at the lowest cost
- Produce undue windfall profits for existing non-carbon or carbon emitting resources
 - existing resources and particularly existing carbon-emitting resources should not profit from state requirements to increase the amount of non-carbon emitting resources in the region's portfolio
- Compel or assume state legislative action or action from jurisdictions outside New England
 - any state may wish to pursue state legislative action related to this matter, but any potential regional wholesale market adjustment should not presuppose state legislative action(s)

NEPOOL Leadership on Moving Forward

- “...the markets were designed to be as fuel neutral as possible, and to find the most economically efficient set of resources to meet the reliability objectives of the region. They have not been designed to transition the fleet to low carbon resources. But State policy objectives are changing to encourage this transition, and so too must our markets.”
- “NEPOOL is feeling the tension of how best to support the public policy of the states while remaining true to its mission. There are many alternatives to explore. Perhaps we, along with ISO-NE, as market developers, have been too slow on the uptake, but we have a history of working together with ISO-NE and the States to meet the region’s challenges.”
- “It feels as if the region may be coming to a cross roads where competitive markets and state mandates could collide. That needs to change.”
- **“We, as an industry, need to get back on track and begin a more productive conversation toward finding solutions that better harmonize state public policy objectives with open, transparent and efficient wholesale market design.”**

http://www.nepool.com/uploads/Other_20160606_Chairman_Comments_NECPU_Symposium.pdf

Near-Term Regional Dialogue On Ways Forward

- **NEPOOL commencing stakeholder dialogue about potential solutions**
- **NEPOOL 2016 Economic Study of Markets and Planning**
 - ISO-NE conducting analysis
 - Stakeholders defined scope, hypothetical future scenarios, scenario assumptions
 - Draft of Phase I Report in Q4; Phase II, which includes market and operational issues to be conducted in 2017
- **Other analysis and/or proposals by market participants, advocates and others expected to inform dialogue. NESCOE will contribute analysis as well.**

2015: Mechanisms 1.0

Mechanisms to Support Public Policy Resources in the New England States

December 18, 2015



2016: Mechanisms 2.0

Continued analysis of a range of mechanisms that could support public policy resources, such as, for example:

- renewable portfolio & clean energy standards
- power purchase agreements
- strategic transmission investments
- centralized auction-based procurement

Information at www.nescoe.com in the Resource Center

Mechanisms 2.0 Analysis

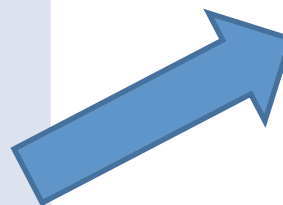
Scenario Analysis

- Base Case
- Expanded RPS
- Clean Energy Imports
- Nuclear Retirements
- Combined Renewable and Clean Energy
- Alternative Transmission



Mechanism Analysis

- Mechanisms
 - RPS
 - CES
 - PPA
 - Strategic Transmission
 - Centralized Procurement
 - Others?
- Costs and Impacts
- Policy Goal Achievement



Clean Energy Mechanisms 2.0
Study

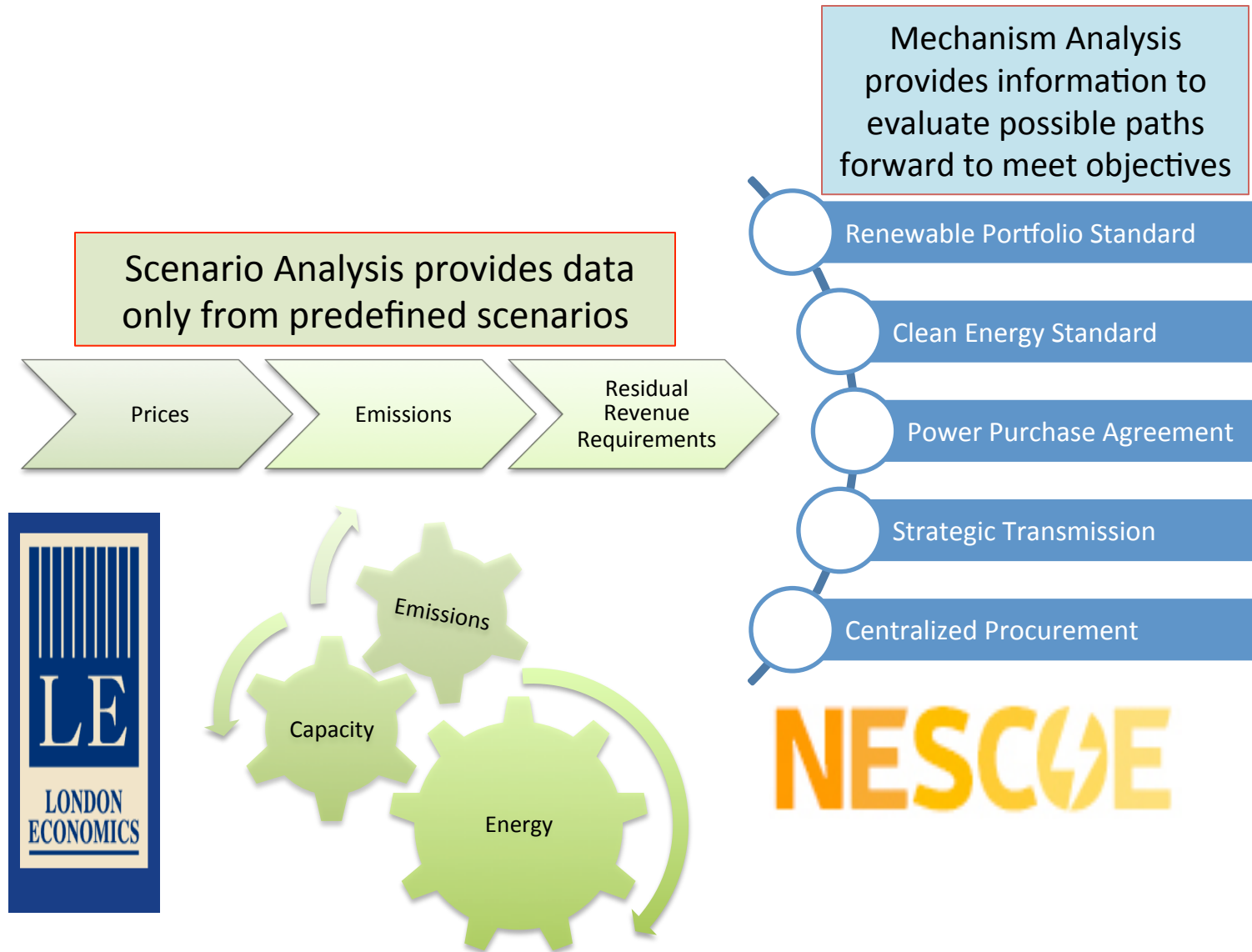
Fourth Quarter 2016

NESCE
New England States Committee on Electricity

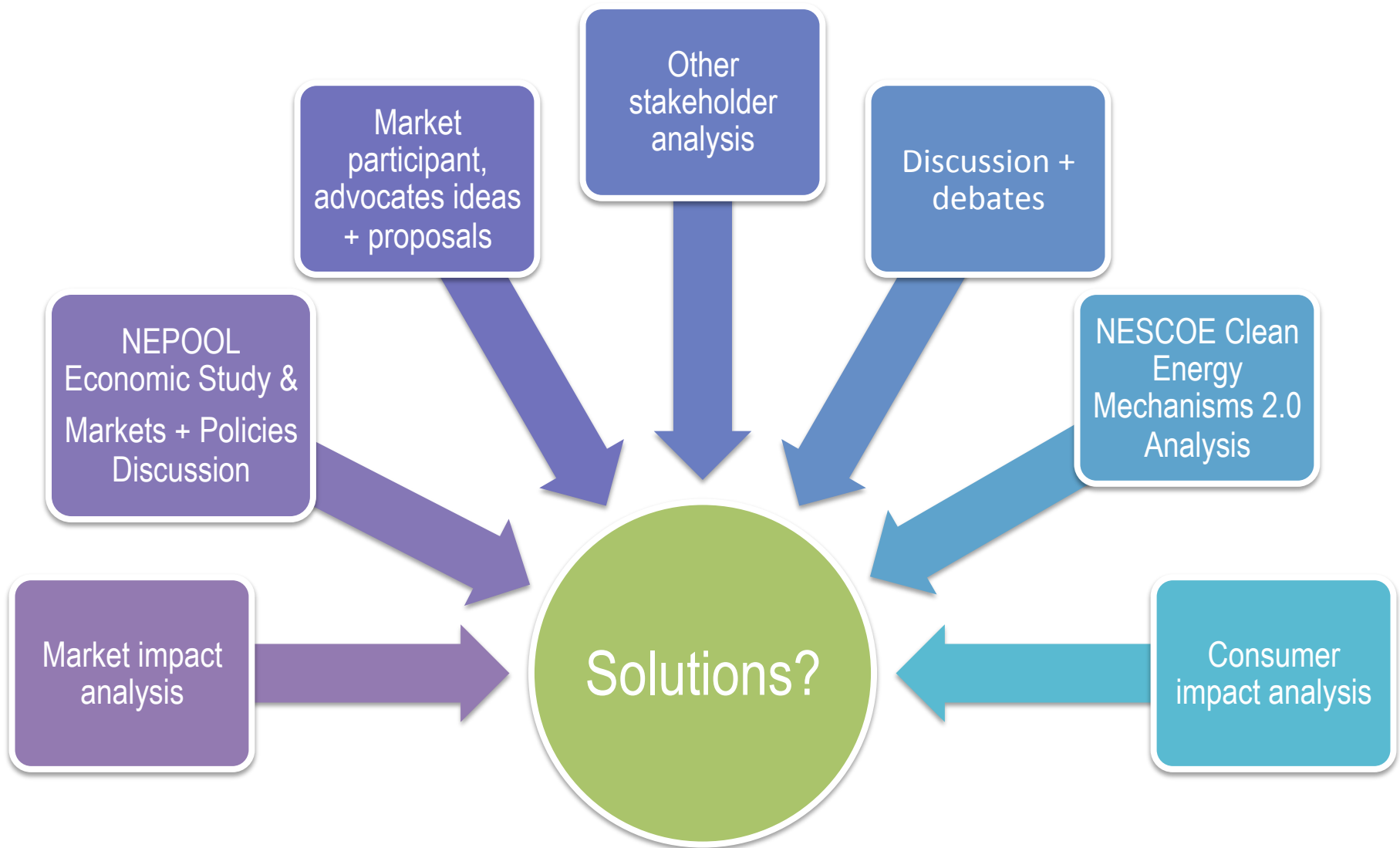
The production of information about hypothetical scenarios or mechanisms does not indicate and should not be interpreted as indicating any state or states' preference for any particular scenario or mechanism.

Further, hypothetical information is not a plan. It is simply information.

Mechanisms 2.0 Analysis Approach



Analysis, Studies and Discussion In Looking for Solutions



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