

New England Electricity Outlook

Environmental & Energy Technology Council of Maine

October 20, 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

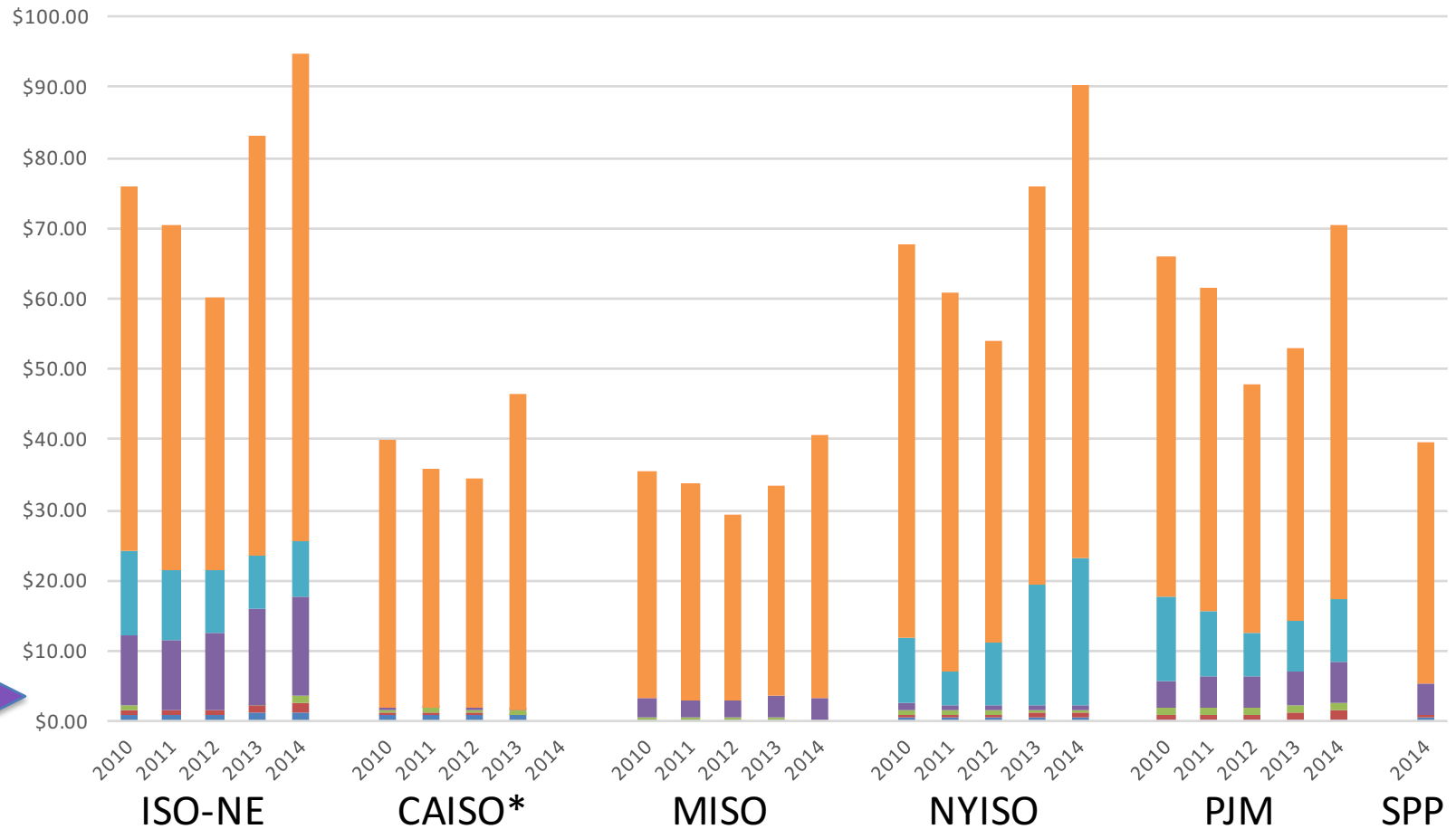
Overview

- ✓ New England's Transmission Investment; Potential Value of Competitive Dynamics
- ✓ FERC Order 1000 ~ Public Policy
- ✓ 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



Transmission

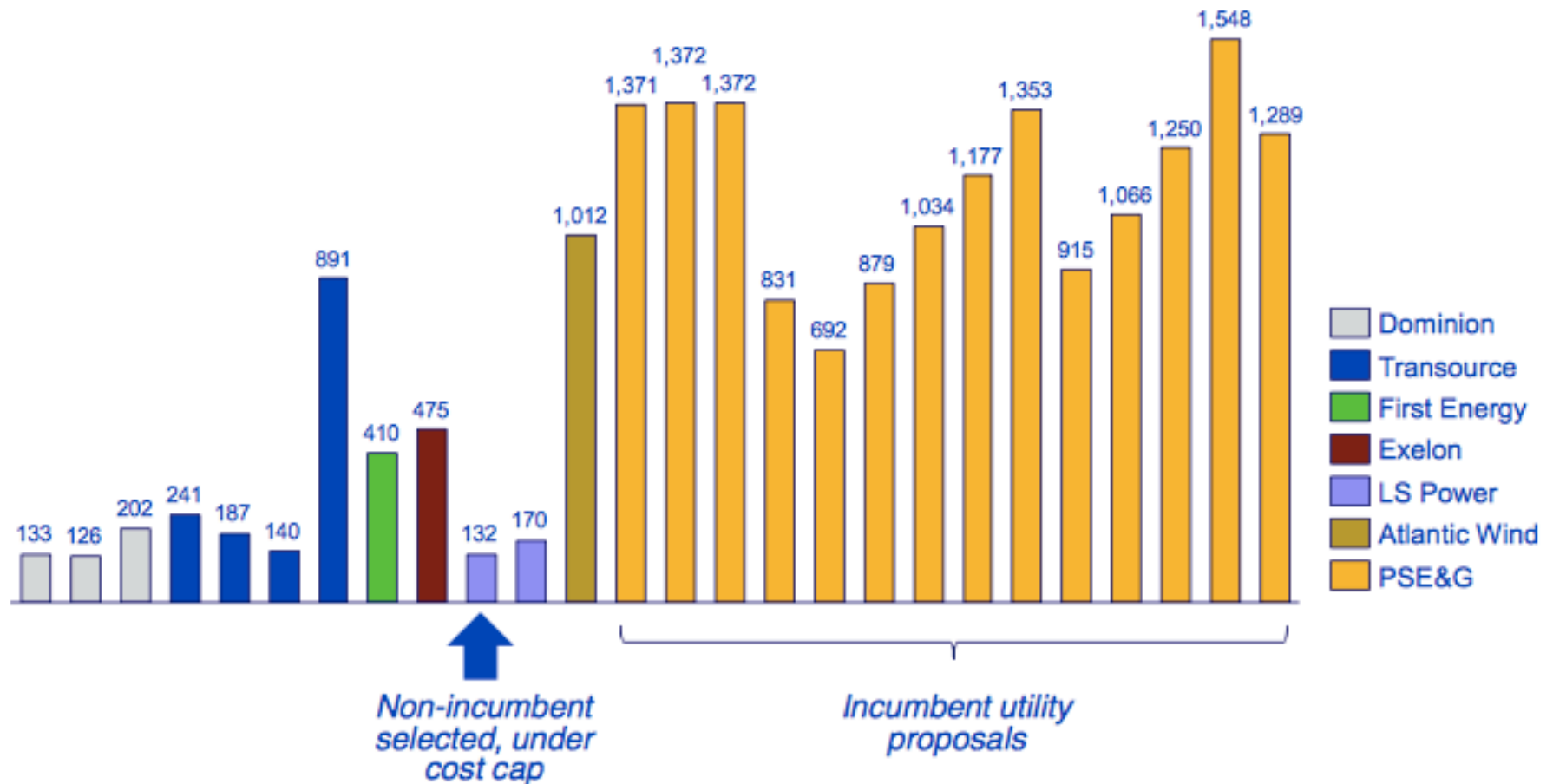
*(Does Not Include Tx)

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 FERC opening transmission development to competition: NESCOE supported concept and all qualified project proponents having comparable project development & cost recovery opportunity

- It's not working out this way.

On FERC requiring ISO-NE's transmission planning to account for state public policies: NESCOE advocated for a process states would actually use, with a central decision-making role for states in connection with the execution of state laws.

- It didn't work out this way.

FERC's Order 1000 on Public Policy-Related Transmission

- ✓ NESCOE*/5 New England States challenging FERC's compliance orders at D.C. Circuit
- ✓ FERC unlawfully expanded the rule to require ISO-NE *to select* state public policy-related project rather than *to consider* public policies

The problem with FERC's Order 1000 is not academic.

By requiring ISO-NE to select transmission projects and at the same time denying states a central role in that process, FERC substituted ISO-NE's judgment for state officials' judgment about the means to implement 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 FERC's
"Order 1000"



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

Forward Movement on State Laws and Policies + Wholesale Markets

1. States must execute state laws.

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

3. Generators litigate mechanisms.

Even if litigating generators “succeed”, it won’t eliminate state energy and environmental laws.

**NEPOOL
Conversations
on Potential
Solutions**

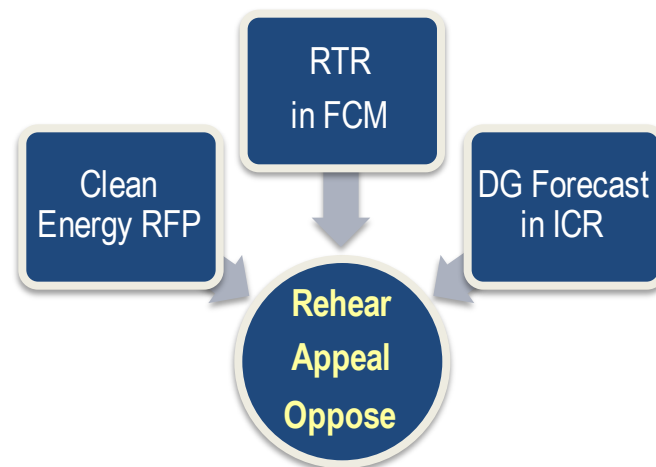
**NESCOE
Mechanisms
Study 2.0**

State Activities

Other Analysis

Policies & Markets: The Problem

- The **current wholesale market** meets resource adequacy at the lowest price - nothing more, nothing less - and does so in a way that **is resource neutral or blind to state laws**.
- Other than through a narrow renewable resource exemption, **the current markets do not - by design - generally include resources that can satisfy some states' mandates** that currently require, for whatever reason, additional non-wholesale market revenues to operate.
- Despite the requirements of law, **some generators have opposed mechanisms that enable the execution of state energy and environmental policies**.



NEPOOL Leadership on Exploring Potential Solutions

“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_NECPUC_Symposium.pdf

“Integrating Markets and Public Policies” (IMAPP) Timeframe

Now: exploring concepts

December: Vote on conceptual framework

2017/2018: Analysis and due diligence, then development of market rules, tariff changes

Implementation: 5 years away?

Assessing Potential IMAPP Solutions - Threshold Criteria

- ✓ **Cost-effectiveness relative to other mechanisms**
- ✓ **State self-determination** – uncompromised individual state determinations about those mandates for which it will incur costs
 - neither FERC nor ISO-NE may define, interpret, impose or attempt to create or confer authority about the requirements or implementation of state laws
- ✓ **Cost allocation** - no state may be compelled to fund other states' mandates
 - whether through the operation of the mechanism or by the result of a federal regulatory order

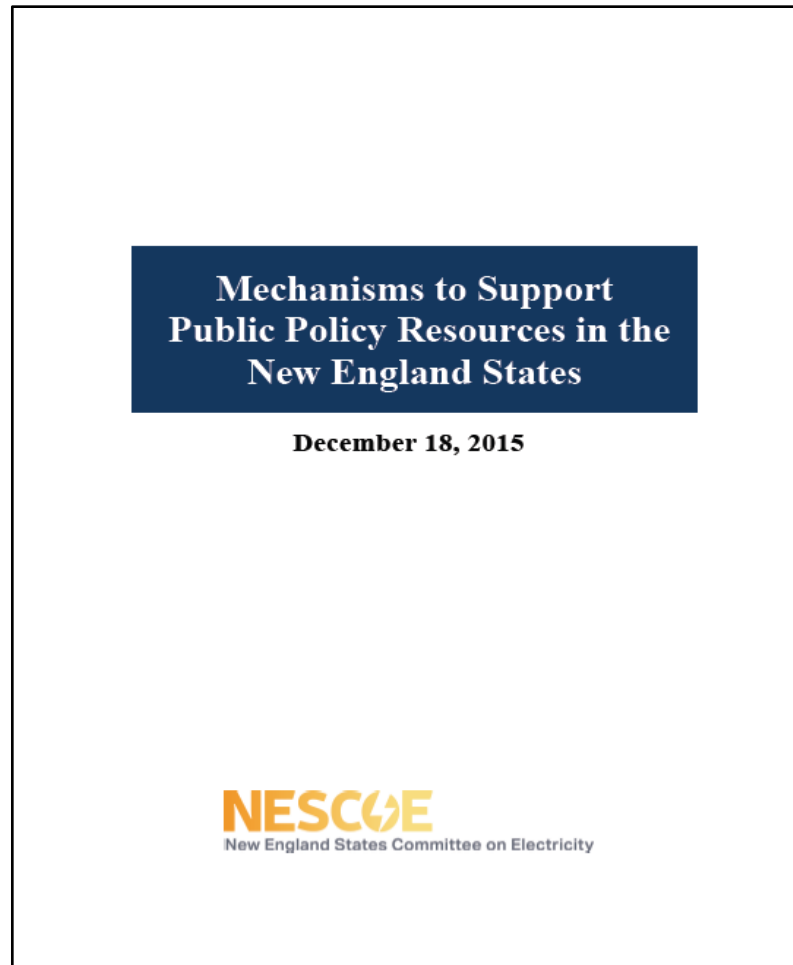
Further, Policy & Market Solutions Should...

- Enable reaction to different market conditions and state laws 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 mandates
- At a minimum, enable the achievement of the current RPS requirements
- In the near-term, consider some states' need to accomplish current objectives
 - for example, state laws directing procurements for certain resources
- Attempt to minimize short-term financial effects to current existing resources

Where is IMAPP Headed?

- **15 entities offered a range of proposals to address state mandates.**
- **In general, the proposals reflect three primary constructs:**
 - Pricing carbon in the energy market
 - Procurement of clean energy in MWh
 - Moderating the impacts of State sponsored procurements in the current capacity market
- **A new clean energy proposal integrated with the current capacity market also was proposed.**

2015: Mechanisms 1.0



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

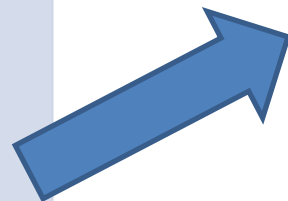
Scenario Analysis

- 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

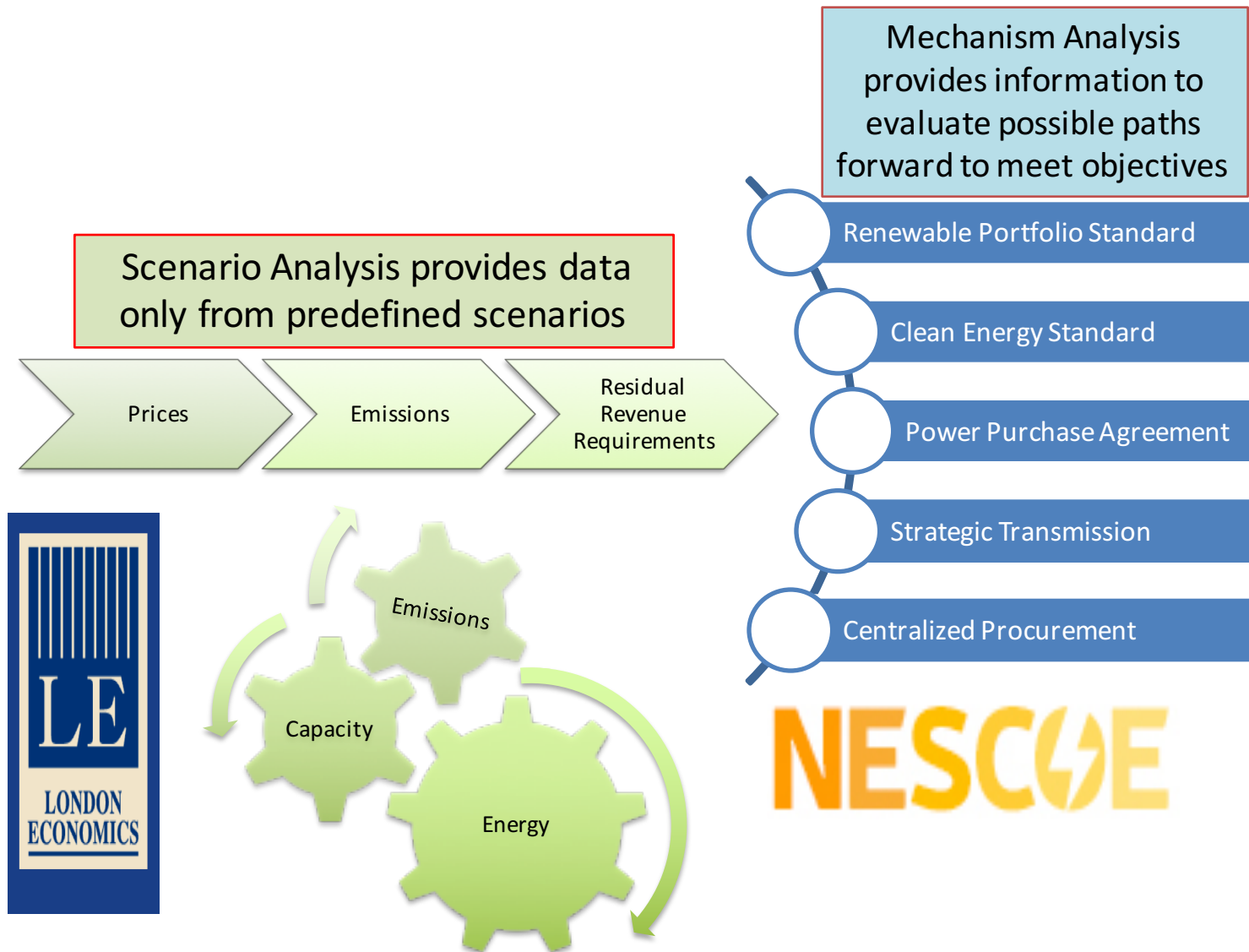
Fourth Quarter 2016



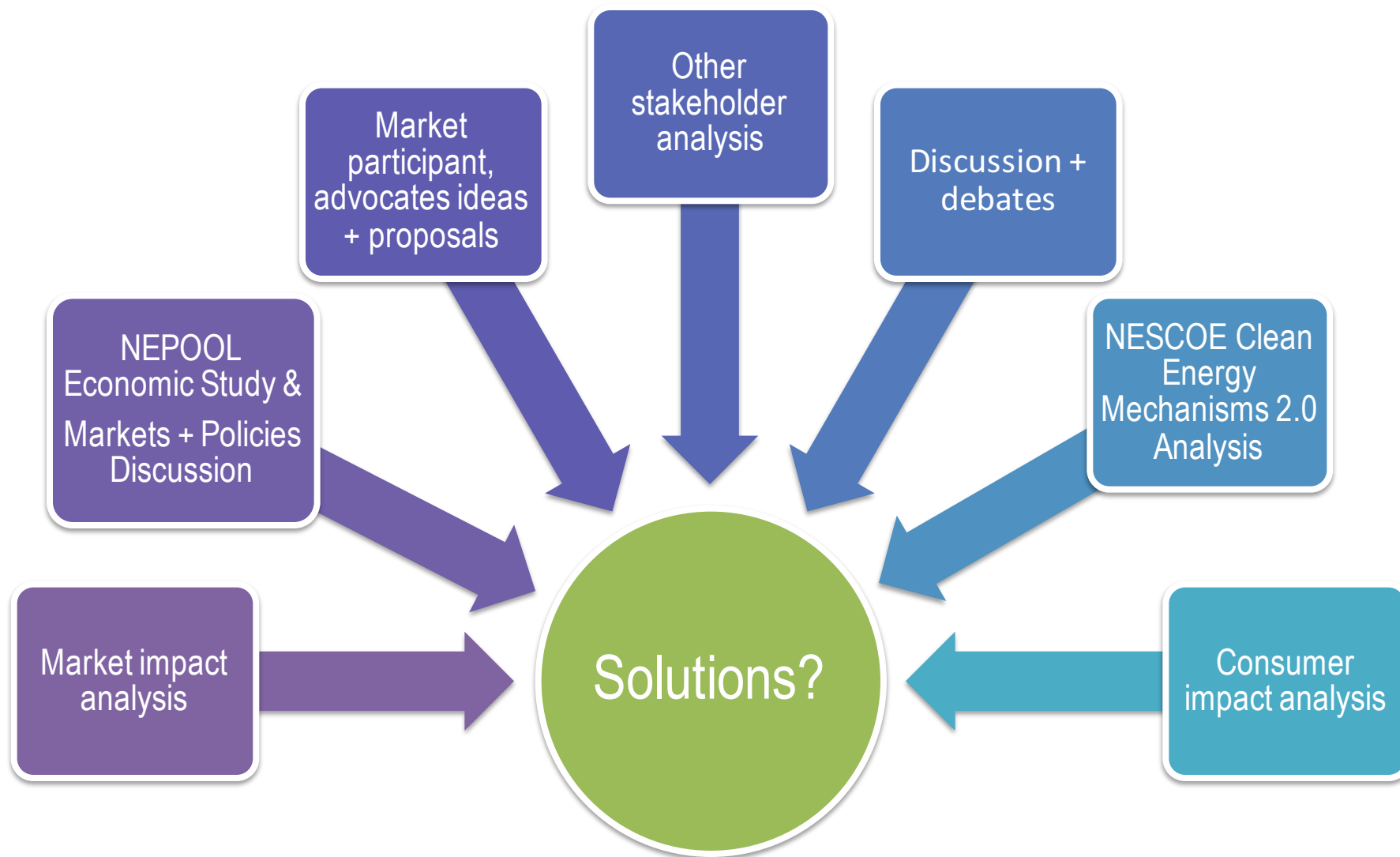
The production of information about hypothetical scenarios or mechanisms does not indicate and should not be interpreted as indicating any state or states' preference for any particular scenario or mechanism.

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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