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NESCOE UNLOCKS THE CODE

EVALUATING REGIONAL MARKET
APPROACHES IN THE ENERGY TRANSITION



TONY CLARK | RAY GIFFORD | MATT LARSON

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INTRODUCTION

The New England region Governors' recent "[Vision Statement](#)" regarding the future of their regional electricity grid is well worth a read for energy policy aficionados from all parts of the country. Indeed, it may be particularly instructive for policymakers from states that are outside of restructured, organized market regions.

The Governors' statement, made through an organization called the New England States Committee on Electricity ("NESCOE"), offers a succinct primer on some of the major tensions and policy misalignments between federal and state jurisdictions' energy policies. It is also useful as a lesson for the broader regulatory community during a time of transition in the energy industry.

This short paper discusses the New England statement in the context of the historical foundation of regional wholesale electricity markets. It continues with an analysis of the "Five Principles" laid out by New England Governors through NESCOE in the context of how they compare to alternative utility regulatory models in regions beyond the Northeast U.S.

The Vision Statement is a useful reference point for non-New England states because it emphasizes how well more traditional utility regulation employed in non-restructured regions of the country holds up against the goal marker the Governors have established. Moreover, while the Vision Statement covers transmission system planning and proposed governance changes, the principles articulated on the foundational topic—Wholesale Electricity Market Design—are particularly salient as non-New England states grapple with questions of regional markets and evaluate whether to pursue new top-down prescriptive market solutions or evaluate bottom-up emergent markets.

HISTORICAL CONTEXT

As outlined in the New England statement, today there is a widespread belief that state-level energy policies and federally jurisdictional wholesale RTO electricity markets are working at cross-purposes in restructured states. To better understand the genesis of these tensions, it is worth considering the evolution of the electricity industry.

Prior to the 1990s, the structure and regulation of the industry was remarkably similar across the states. Despite the existence of some functioning power pools and regional coordination, electric utilities were essentially all monopolies within their service territories. The utilities were organized vertically, bundling generation, transmission and distribution together via a consolidated entity. Jurisdictional lines were relatively clear. States handled retail regulation. The federal government, through the Federal Energy Regulatory Commission ("FERC"), supervised wholesale rates and transmission rates for sales in interstate commerce.

Beginning in the 1990s, changes began evolving in disparate ways in different regions of the country.

A group of states, primarily those with high electricity rates, began searching for ways to introduce more direct competition into the utility model. The result was a wave of industry restructuring in which certain states—primarily in the Northeast U.S. and Texas—"unbundled" their utilities into separate distribution, transmission and generation companies. While the wires portion of the business typically retained components of traditional monopoly regulation, energy generation and supply were deemed competitive businesses in which customers were allowed direct retail access and choice amongst suppliers. The theory was that customer retail choice and competition would select the market's winners and losers—this would drive down cost, and shift risk from captive ratepayers to investors. State restructuring peaked by the early-2000s, with about 13 states that fully restructured their utilities, and the remainder maintaining vertical integration.

In practice, the blackboard economic theory of restructuring and direct retail access has never quite lived up to its hype. (1) There is, however, an important implication to be understood from the early days of restructuring: The goal of state-led restructuring, at the time it was enacted, was generally aligned with the design of RTOs/ISOs. The markets were intended to drive wholesale generator prices to the marginal cost of production and to mitigate market power. Said another way, the overriding design feature of RTOs was security constrained economic dispatch: “What is cheapest to run right now, while keeping the lights on?”

Present day commentaries bemoaning that current markets are broken because of a failure to accommodate state policies ignore this important point. While there are certainly concerns that wholesale, markets are far from perfect, it must be remembered that the top-down, prescribed markets largely offered a response to problems these high cost states were facing at the time. Lowest marginal cost generation won.

But many of today’s political leaders, as illustrated by the New England Governors’ statement, are asking a completely different set of questions—or “posing” them in the form of state legislation or major administrative policy changes. These questions address state-led resource adequacy planning and how to procure power from generators through long-term out-of-market contracts based on clean energy attributes.

It is as if the state leaders are asking—how can the markets give us a “home run?” But the top-down prescribed markets were designed to tell you how to put the golf ball in the cup with the lowest number of strokes. Both relate to how to score, but are playing two entirely different games. Ever since this divergence has opened between state policy goals and federally-jurisdictional RTO markets, it has been a game of catch-up for market designers. RTOs and their regulators at FERC have been trying to somehow harmonize the rules between two different games, but the results have been less-than satisfying to all sides. Merchant generators who depend on proper price formation to make investment decisions are slowly squeezed by markets that do not reflect proper price formation. State leaders cannot effectuate the energy policies they desire. FERC engages in near constant rear-guard actions to impose out-of-market fixes to the states’ own out-of-market fixes. It is the ‘in-market’ solutions to patch ‘around’ market solutions phenomena as the states and markets fight for position with one another. No one knows where this ends—but on the present trajectory, it does not end well. The price system is corrupted and manipulated to meet policy ends, which in the end inspires the sensible reaction that all “prices” are up for policy grabs. If a “market” outcome is unsalutary from an operational or political perspective, it can be patched, reversed or remedied through some intervention or other – meaning all players need to be on guard at all times for regulatory nullification of a given “market” outcome. (2)

With that background, we turn to a discussion of the New England Governors’ Five Principles in the Vision Statement. We ask if bottom-up market models that are emerging in still vertically integrated utility regions of the country might be better positioned to rationally meet such principles, in contrast to top-down prescriptive markets in fully restructured regions. The former includes attributes of flexibility and responsiveness to state public policy choices. The latter is an increasingly haphazard amalgam of contradictory policies that profess simultaneous allegiance to both government-led resource planning and supposedly “free-market” outcomes. Inevitably this path leads towards state-federal jurisdictional clashes.

1. Rose, Kenneth and Taruffelli, Brittany and Upton, Gregory, Electricity Market Restructuring and Retail Rates (July 26, 2020). USAEE Working Paper No. 20-462. Available at SSRN: <https://ssrn.com/abstract=3660974> or <http://dx.doi.org/10.2139/ssrn.3660974>
2. The meta-lesson we draw here is not that “markets” work better or worse than regulation, but that political economy forces will overwhelm the stability, transparency and predictability that are the core features of a real market. It thus becomes a question of regulatory prudence and judgment of what institutional design achieves the desired ends.

THE NESCOE PRINCIPLES AND EMERGENT MARKETS

NESCOE may not be widely known beyond the east coast and regulatory wonk circles, but it is a unique not-for-profit entity organized under state and federal law. NESCOE represents the collective perspective of the six New England states in regional electricity matters, with a six-member board (one member each appointed by the Governors of the six New England states). (3)

NESCOE focuses on resource adequacy and system planning and expansion, but its stated organizational purpose is to “[advance] the New England states’ common interest in the provision of electricity to consumers at the lowest possible price over the long-term, consistent with maintaining reliable service and environmental quality.” This purpose has found itself in conflict with the direction of ISO-NE, and in October 2020 NESCOE released a vision statement outlining its proposed path and principles to achieve a “clean, affordable, and reliable 21st century regional electric grid” (4)

The NESCOE principles emanate from discontent with the state of ISO New England and the basic problem statement the principles seek to address is stated at the outset of the Vision Statement:

The existing market structure is not fully compatible with certain state laws and mandates regarding resource adequacy and actions taken (e.g., longterm contracts) in pursuit of energy- and climate-related legal requirements. As a result, New England’s wholesale markets fail to sufficiently value the legally-required clean energy investments made by the ratepayers they serve. Absent fundamental changes, as described below, the result of the existing market structure will be that some states’ ratepayers will continue to overpay for electricity, constrained by a wholesale market not aligned with a rapidly transitioning resource mix and consumer investments in clean energy and decarbonization. That is not a sustainable outcome. (5)

NESCOE points to the ISO New England capacity market as emblematic of the broken prescribed market model with a focus on the fatal flaw—market design runs roughshod over state energy policy: “Its existing design largely prevents state-level investments in clean energy resources – developed pursuant to state laws – from being fully accounted, thereby creating risk that local ratepayers have to pay twice for the same level of resource adequacy, while simultaneously impeding those states’ legal requirements to decarbonize.” (6)

The solution from NESCOE’s perspective is to “pursu[e] a new, regionally-based market framework that delivers reliable electricity service to local homes and business, but that framework must also account for and support States’ clean energy laws in an efficient and affordable manner,” and NESCOE puts forward its Five Principles to advance this objective. (7) But NESCOE has done more than just offer platitudes about what it wants. Here, NESCOE’s Vision Statement and Five Principles unlocks the code for evaluating regional market participation and the best structure:

- **Principle 1:** Meet States’ decarbonization mandates and maintain resource adequacy at the lowest cost by using market-based mechanisms;
- **Principle 2:** Establish effective mechanisms that accommodate existing and future long-term contracts for clean energy resources executed pursuant to state law;
- **Principle 3:** Integrate distribution-level resources effectively and efficiently;
- **Principle 4:** Allow interested buyers and sellers to participate; and
- **Principle 5:** Provide for an appropriate level of state involvement in market design and implementation. (8)

3. NESCOE Home Page, <http://nescoe.com/about-nescoe/>.

4. NESCOE Vision Statement, at 1, http://nescoe.com/wp-content/uploads/2020/10/NESCOE_Vision_Statement_Oct2020.pdf.

5. NESCOE Vision Statement, at 1-2.

6. NESCOE Vision Statement, at 2.

7. NESCOE Vision Statement, at 2

8. NESCOE Vision Statement, at 2.

Policymakers in non-RTO regions of the country can use these principles to provide a paradigm for the foundational question of regional market design. In both of the two non-RTO regions (the West and Southeast), there have been recent discussions about other market models: the Energy Imbalance Markets – or EIM (in the West), and the Southeast Energy Exchange Market – or SEEM (in the Southeast). (9)

By using the Five Principles as a guidepost, we suggest leaders in the West and Southeast can discern whether the top-down prescribed market model with an RTO/ISO overlay *or* a bottom-up emergent market model best meets the needs of customers and advances state energy policy objectives. When applied in that manner, the emergent market model is left standing as more compatible with the Five Principles than the top-down prescribed market model. And while it is perhaps unlikely that the New England states would seek to put the restructuring “toothpaste back in the tube,” leaders in parts of the country that are still evaluating market structures should find the New England experience a helpful case study.

Before analyzing these principles and the market approach that best meets the NESCOE market design objectives, it is important to view the Vision Statement in context. NESCOE—an organization representative of the six *Governors* of the New England states—must *ask* a FERC jurisdictional ISO to *consider* changes to accommodate state laws passed by the respective legislatures of these states. For states that have not yet adopted the prescribed, top-down market model, that may be the most cautionary warning of all.

Principle 1 | Meet States’ decarbonization mandates and maintain resource adequacy at the lowest cost by using market-based mechanisms

Emergent market constructs and their compatibility with existing integrated resource planning (IRP) processes offer the ability to work towards decarbonization targets or goals through established resource planning efforts while simultaneously addressing resource adequacy. Further, many IRP processes utilize competitive bidding processes to procure clean and cost-effective generation while analyzing the needs of the system as a whole. An emergent market overlay on these processes, *e.g.*, an energy imbalance market or similar bottom-up market structure, can provide additional market-based benefits by increasing regional dispatch efficiency and furthering efforts towards decarbonization targets by reducing curtailments of intermittent renewable resources.

In states like Colorado that have well-established and high-functioning IRP processes—as evidenced by the over 400 bids received in response to Xcel Energy-Colorado’s last competitive solicitation—an emergent market overlay (*e.g.*, Western Energy Imbalance Market (WEIM)) works in tandem with the established process to meet this first NESCOE principle. Top-down prescriptive markets, on the other hand, continue to struggle with state policy accommodation with the market design rules ultimately holding a trump card over state policy directives. Indeed, the asymmetry between state policy directives and market structures have led to the flood of ‘around market’ solutions developed by the states and ‘in-market’ solutions and patches put forward by market operators in recent years. Here, the bottom-up emergent market structure—*e.g.*, WEIM, the Western Energy Imbalance Service (WEIS) market, or the Southeast Energy Exchange Market (SEEM)—best satisfies the first NESCOE principle of advancing decarbonization policy, maintaining resource adequacy, and utilizing competitive power procurement to secure cost-effective generation to meet system needs.

Principle 2 | Establish effective mechanisms that accommodate existing and future long-term contracts for clean energy resources executed pursuant to state law

Emergent market constructs also accommodate long-term contracts for clean energy resources, whether those contracts are executed through procurement processes established by state law or the IRP process. With a bottom-up emergent market, long-term contracts for clean energy resources—regardless of their genesis—are accounted for through state level regulatory processes designed to ensure resource adequacy

9. We classify EIM and SEEM as examples of “emergent” or “bottom-up” markets, in contrast to “prescribed” or “top-down” RTO/ISO markets.

and compliance with state policy directives. IRP processes accommodate state policy—including procurement directives—and the voluntary decision to enter into a resource sharing approach with other utilities in the region does not interfere.

Take, for example, actions undertaken in Massachusetts to procure clean energy resources in the form of offshore wind and hydropower. Under IRP, the competitive process and contracting for this generation is subsumed into the process and state regulators can determine the best clean energy portfolio to meet the state's needs. At the same time, with a bottom-up emergent market, the state has the opportunity to either sell excess energy in the market or procure it to the extent needed to meet or stay within the decarbonization objectives of the state.

Contrast this with a top-down prescribed market model, where these clean energy resources face headwinds due to mandatory capacity market constructs and market rules that do not accommodate state policy objectives.

Principle 3 | Integrate distribution-level resources effectively and efficiently

Across the country, the distribution system remains a fully-regulated monopoly endeavor and this fact, again, counsels in favor of the bottom-up emergent market construct as the favored approach to advancing the integration of distributed energy resources. Existing state planning processes can better incorporate procurement and development of distributed energy resources as part of system-wide resource planning and renewable energy procurement efforts. To be sure, the New York Reforming the Energy Vision (REV) effort includes an energy infrastructure modernization component to try and advance the integration of distributed energy resources; however, this effort is in its infancy while states that rely on traditional integrated resource planning with an emergent market overlay have the tools to incorporate these resources into broader system planning now. The REV approach—while well-intended—cannot accommodate this NESCOE principle to integrate distributed energy resources effectively and efficiently in the near-term; as a result, the bottom-up emergent market construct with its planned utilities is best suited to satisfy this principle when comparing the two approaches. This principle as applied to the emergent market versus prescribed market evaluation begs a simple question—why spend years developing a “market” to meet these ends when IRP with an emergent market layered over it can do that today?

Principle 4 | Allow interested buyers and sellers to participate

On their face, both competitive procurement through IRP with an emergent market and top-down prescribed markets allow all interested buyers and sellers to participate. The question therefore is whether one is more accessible than the other and what provides the most transparent and open approach. IRP competitive procurement to meet resource adequacy needs, structured properly, with open and transparent bidding and modeling practices, and opportunities for stakeholders to engage in the process, allows for bidders to compete on equal footing. The issue in many top-down prescribed markets is the litany of market rules and ‘in-market’ patches, with the most notorious restriction being the Minimum Offer Price Rule (MOPR). These market rules, policies, and patches encourage the development and operation of specific resource types or resources with certain attributes, and the issues with ‘in-market’ patches are compounded as they are layered atop one another to address state ‘around market’ solutions. Competitive procurement on a state by state basis can allow for open competition and accommodation of state policy objectives in a way that top-down prescriptive markets cannot, given their need to constantly patch the markets. This principle—while rather generic and able to be satisfied by either market construct—can be met by IRP procurement and bottom-up emergent markets in a simple and transparent way.

Principle 5 | Provide for an appropriate level of state involvement in market design and implementation.

States have deep involvement in market design and implementation with emergent bottom-up market constructs. First, these constructs allow for full accommodation of state energy policy objectives through state-driven IRP, with the emergent market serving a residual way to procure or sell energy when the utility is short or long on resources. States do not operate emergent markets like WEIM, WEIS, or SEEM—but *they do pick the resources that operate in that market* within their respective states by virtue of the IRP process. Put another way, states operating in emergent markets do not find themselves battling prescribed market rules to try and provide state support (e.g., zero emission credit programs) for resources to keep them afloat—or even put them in play—in a market environment hostile to their participation. Instead, it is the inverse as the states have final say through

their respective regulatory processes regarding the resources that will participate in the emergent market in the first place. And it is this benefit that renders bottom-up, emergent markets preferable to top-down prescribed ones when viewed through the lens of state input and the ability to give full consideration to state policy prerogatives.

CONCLUSION

The New England Governors—through NESCOE—have done the country a favor with the Five Principles. For policymakers in the West and Southeast, the Five Principles provide an evaluation rubric as states in these regions look at which regional market road—emergent, bottom-up or prescriptive, top-down—can best serve customers in their state and accommodate state policy choices. And for policymakers in states already in an RTO/ISO, it provides a satisfaction survey for current market structure and outcomes—a “how did we do today?”-type of analysis where policymakers can look at the facts on the ground and determine if the market structure is meeting the states’ needs. The Five Principles are a code for evaluating the most appropriate form of regional market participation, and the states and energy policy will be better off for it.