

**OPINION**

# **A PJM carbon pricing approach to bridge the state-federal energy policy divide**

A carbon charge in PJM could be designed to eliminate the need for out of market ZEC payments to nuclear generation and significantly reduce state payments for renewable energy credits.

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The following is a viewpoint by Kevin B. Jones, Professor of Energy Technology and Policy at Vermont Law School.

Recent history has demonstrated that a transition to a low carbon economy is strongly facilitated by competitive wholesale electric markets.

Even without the implementation of important federal climate policy, inefficient, high-carbon resources continue to announce their retirement due to competitive pressures, with 2018 looking to be a record year for coal retirements.

Meanwhile, stakeholders in the Western Interconnect, many once skeptical of organized electric markets, have increasingly embraced the need to expand California's energy market to neighboring states to more efficiently integrate the rapid growth of clean energy resources across the region. The current Western Energy Imbalance Market has generated over \$400 million in benefits to its participants since its inception in 2014 and these benefits flow directly to consumers.

At the same time, the broadening of the energy imbalance market beyond California has allowed the West to better

integrate the growing supply of renewable energy.

With this important evidence, now is not the time to step backwards on competitive electric markets in the East.

The Eastern U.S. has played a leadership role in advancing open access to the grid and the stakeholders and staffs of PJM, NYISO and ISO-NE, with the support of the Federal Energy Regulatory Commission (FERC), have worked hard to reduce barriers and increase regional market efficiencies.

At a time where we need to focus on enhancing the regionalization of our clean energy transition, to both increase the growth and improve the efficiency of the transition, it has been erroneously suggested, as a result of a current conflict before FERC over the design of the PJM capacity market, that state policy may be advanced if states withdraw from the PJM market.

In an order earlier this year, the Commission found PJM's current capacity market to not be "just and reasonable," noting that in recent years "the integrity and effectiveness" of the capacity market administered by PJM have "become untenably threatened" by out of market payments. The out of market payments include payments supporting the development of state renewable resource goals and more recently payments to prevent the retirement of nuclear units through state zero emission credit programs (ZECs).

### **Price signals for carbon**

Rather than create an unnecessary conflict between clean energy goals and wholesale electric markets, there is a need for a more comprehensive regional approach that provides the appropriate price signals for carbon through existing market mechanisms such as proposed by Eastern Generation, LLC in the PJM capacity market proceeding.

If implemented in PJM, a carbon charge could be designed to

eliminate the need for out of market ZEC payments to nuclear generation and significantly reduce state payments for renewable energy credits (RECs).

A carbon charge applies an economic instrument as a bridge between state clean energy policies and federal wholesale market policies. As a result of the carbon charge, an additional level of renewable investment would now become economic and other renewables, such as offshore wind that are in an earlier stage of development, would require less state support.

Defining an efficient carbon pricing mechanism with a known schedule for implementing the social cost of carbon would also provide price transparency and increased revenue certainty for low carbon resources, which should support sustained business confidence and private investment in cleaner energy resources.

For the electric sector, using our most appropriate tools for addressing the environmental externalities of carbon emissions is essential to both preserving well-functioning competitive electric markets and ensuring that a timely transition to a clean electric grid happens in a reasonably efficient manner.

Applying an economic instrument, such as carbon pricing, to this problem offers significant benefits both to those concerned about the cost of environmental subsidies or pollution charges and those who want to expedite the transition to a clean energy future given that carbon pricing has the potential to incent much larger carbon emission reductions at a similar cost to much less effective non-market approaches.

## **Simple implementation**

Implementation of a carbon charge in an RTO's energy market is relatively simple.

Applying a carbon charge in the energy market would raise the bid cost of carbon emitting generation and when those resources were on the margin, it would raise the market clearing

price received by all committed resources.

Carbon emitting resources would be assessed the carbon charge for all carbon emissions as part of the settlement process. Low carbon resources (renewables, nuclear and efficient carbon emitting resources) would receive higher net revenues. The carbon charges could be returned to customers by some predetermined formula that best mitigates the customer impact of the charges.

In New York, analysis by the Brattle Group found that a carbon charge could meaningfully reduce CO<sub>2</sub> emission (by 2.6 million tons), replacing costlier measures to achieve the same results.

In addition to pursuing a least cost approach to reducing carbon emissions, Brattle noted some very important results that begin to unravel the tangled and less efficient patchwork of current policy approaches.

While a business as usual approach could expect to lower anticipated future ZEC pricing for nuclear generation due to forecasted rising energy and capacity prices, it would not likely allow the removal of these out of market payments. In contrast, implementing a carbon charge, similar to the one envisioned in New York, could drive ZEC prices to zero and eliminate the need of this band aid approach

A carbon charge would also increase energy revenues for renewables allowing them to enter the market with lower REC prices. According to the Brattle Group, a carbon charge of \$40/ton could reduce New York's REC payments by \$310 million.

Higher carbon charges could also speed this transition. A carbon charge will also support investment in storage and demand response and further incentivize energy efficiency and conservation.

Without some means to efficiently price carbon in PJM's markets, there is likely to be a growing conflict with state policies

promoting decarbonization and competitive electric markets. In the future, we can expect inefficiency in outcomes, resulting in higher costs for consumers, slower than desired progress on decarbonization and a continuing need to apply patchwork fixes to competitive markets to accommodate these challenges.

Implementing carbon pricing PJM-wide will reduce the conflict by incentivizing clean energy resources toward the lowest cost mix and locations regionwide. There are significant economic benefits to the regionalization of these state policies and carbon pricing offers an important opportunity to achieve these policies at lowest total cost.

Ultimately, it seems likely that the PJM region will build consensus for a carbon pricing approach given the efficiency benefits and the significant challenges posed by the alternatives.

The primary question is should stakeholders begin working on this approach now in order to avoid the worst of the inefficiencies or will FERC and PJM choose to delay the debate until the problems become increasingly insurmountable?