

Comment on “Green Overload” – an Issue Brief by the Empire Center

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The Empire Center recently released an Issue Brief entitled “Green Overload: New York State’s Ratepayer-Zapping Renewable Energy Mandate” (September 2016) that criticizes the state’s Clean Energy Standard (CES), questioning its cost, feasibility, and significance. The authors claim that the CES will cost New York ratepayers \$3.4 billion over the first 5 years. The Brattle Group has reviewed “Green Overload” and found that it errs by considering only the program’s direct costs and failing to account for its benefits. The program’s effect on wholesale power prices, which we analyzed in our December 2015 report¹, means that on balance, the CES will actually save ratepayers money and create substantial net economic benefits, as well as the environmental benefits that motivate the program. Our review finds:

- **The CES will save New York ratepayers about \$1 billion a year** in electricity costs by maintaining the State’s three upstate nuclear plants, which keep power costs lower. **This will boost New York GDP by billions of dollars a year.**
- **The environmental benefits of the CES exceed \$700 million a year.** Beyond reducing CO₂ emissions, the CES will also reduce criteria pollutants (SO₂, NO_x, particulates). Upstate nuclear plants account for over 75% of the program’s avoided CO₂ in its early years; if they were to shut down, New York’s power sector CO₂ emissions would immediately rise by about 50% over current levels, making it much more difficult to achieve its longer term carbon reduction goals.
- **The CES’s economic and environmental benefits together are many times the program’s direct costs.** The CES saves New York power customers money and boosts the economy, while cutting emissions and saving jobs, for no net cost to ratepayers – it will actually save them money. By considering only direct program costs and ignoring all its benefits, “Green Overload” has missed most of the story.

Retaining Upstate Nuclear Creates Customer Savings and other Benefits, not Net Costs

The most significant error in the authors’ claim that the CES would be “high cost” for consumers is that it ignores the impact of the Tier 3 component of the program on electricity prices. Tier 3 provides Zero

¹ “New York’s Upstate Nuclear Power Plants’ Contribution to the State Economy,” The Brattle Group, December 2015.

Emission Credits (ZECs) for the three upstate nuclear plants in recognition of their carbon-free generation, and will thus prevent the early retirement of these plants. If these generators were to shut down prematurely, their output would be replaced by fossil units that have higher short-run costs, and wholesale energy and capacity prices would rise. These higher wholesale power costs flow directly through to New York electricity customers. Our December 2015 report estimated that these three nuclear plants hold down customer electricity costs by approximately \$1.7 billion annually.² This figure does not include the cost of preserving these plants, but even if the authors' estimate of \$677 million for the annual cost of the entire CES program was correct, this still leaves New York power customers paying about a billion dollars less each year for electricity.³ Far from imposing additional costs on New York electricity customers, the CES, including the Tier 3 ZEC component, would actually create significant savings on their overall electricity bills.

In addition to creating electricity cost savings for consumers by holding down electricity prices, the CES will provide substantial carbon abatement benefits; these environmental benefits are what provide the underlying rationale for the CES program (it will also reduce criteria pollutants such as NO_x). The New York Department of Public Service (DPS) Staff estimates that the overall benefits of the CES, which include economic and environmental benefits of avoided carbon emissions, supply cost savings, and property tax benefits, are about \$5 billion for the first two years of the program alone, far in excess of potential program direct costs.⁴ The Brattle Group estimated that the carbon abatement benefits of retaining the upstate nuclear plants (not including the effect of renewable components of the CES) are almost \$700 million per year, and that the GDP benefits are \$3.16 billion per year.⁵ These benefits are far in excess of the direct costs of the CES, and while the carbon abatement benefit is shared globally, the electricity cost reduction and GDP benefits accrue directly to New Yorkers.

By focusing on just the CES's direct costs, and ignoring its environmental and economic benefits, the authors of "Green Overload" are making the implicit assumption that the electricity market is performing well without the CES, and treating the CES as an unnecessary additional cost without benefits. Of course, the entire policy rationale for the CES is that the current market structure is demonstrably failing to account for the environmental externality of greenhouse gas emissions. It also

² The Brattle Group, December 2015.

³ The \$677 million annual CES cost stated in "Green Overload" is based on the cap on ZEC prices; actual ZEC costs may be lower, but would not be higher. If ZEC costs, and thus CES overall costs, were lower, customer savings would be higher.

⁴ "Staff's Responsive Proposal for Preserving Zero-Emissions Attributes," New York DPS Staff, July 8, 2016.

⁵ The Brattle Group, December 2015. The \$3.16 billion annual GDP benefits of retaining the nuclear plants was calculated without considering the direct costs of preserving the plants. Including ZEC support costs and other CES costs would reduce customer savings from about \$1.7 billion annually to roughly \$1 billion, which would reduce the magnitude of the GDP benefits, though they would still be substantial.

happens that preserving the upstate nuclear plants and supporting an expansion of renewables has other benefits, in the form of lower consumer costs and enhanced economic activity. Far from interfering with an otherwise-functioning market, the CES, including its Tier 3 ZEC component, is intended to correct an obvious market failure.

The “Low Impact” Conclusion is Fundamentally Flawed

The authors of Green Overload conclude that the CES will have “a barely discernible impact on global greenhouse gas emissions.” This is of course wrong; it is based in part on an arithmetic error, in which the authors compare projected future New York CES carbon abatement levels to the current emission levels of China:

“When fully implemented, the Clean Energy Standard is expected to reduce carbon dioxide emissions in 2030 by 23.6 million metric tons—an amount that, while seemingly impressive, equates to less than 0.003 percent of CO₂ emissions in China alone as of 2014.”

This comparison understates the relative CES carbon effect by a factor of 100. In fact, the CES’s 23.6 million metric ton projected CO₂ savings in 2030 is just under 0.3 percent of China’s 2014 emissions, not 0.003 percent. And while 23.6 million metric tons appears small relative to the total emissions of the world’s largest carbon emitter, it must be viewed in the proper context as the carbon reductions induced by a policy that addresses one economic sector within a single U.S. state. To avoid the worst consequences of climate change, it will ultimately be necessary to achieve this type of reductions sector by sector, state by state, and country by country.

Tier 3 of the CES Provides a Bridge to Long-Term Policy Goals

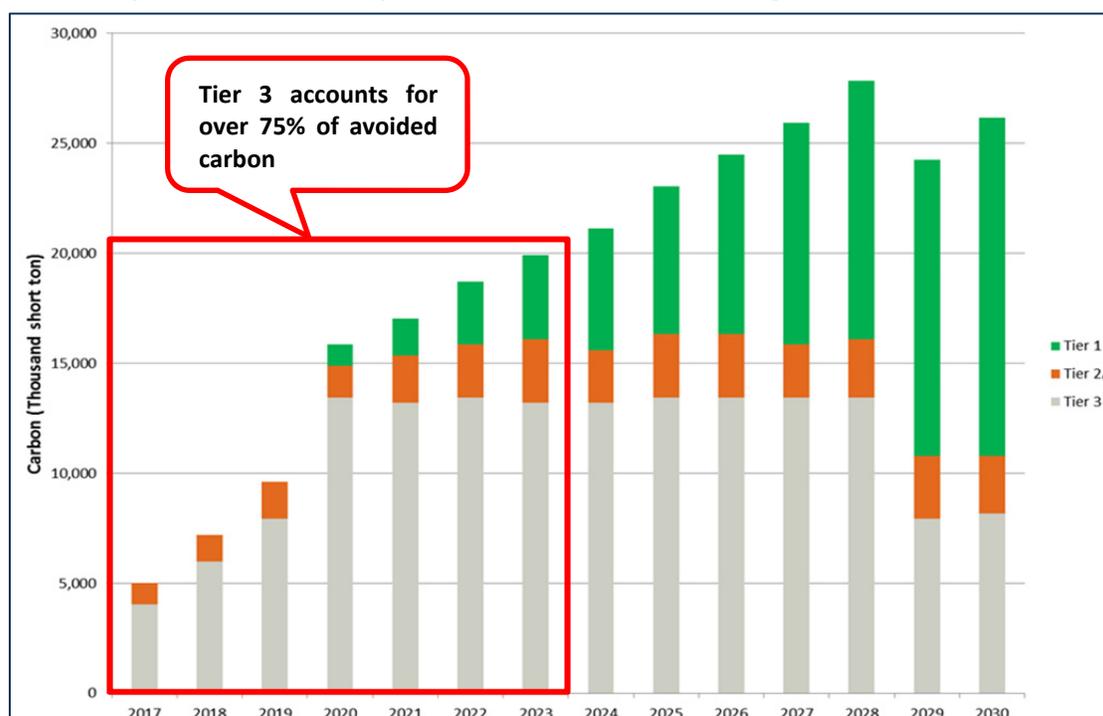
The Tier 3 ZEC component of the CES provides a natural bridge to New York State’s longer run policy goals, including a 40% reduction in GHG emissions from 1990 levels. New York’s nuclear plants currently provide 31% of in-state generation, while wind and solar together provide only about 3%.⁶ Even at the CES’s greatly accelerated pace for renewable expansion, Tier 1 and 2 renewables will not match the level of carbon-free generation provided by New York’s upstate nuclear plants until 2028. An analysis by the New York DPS, restated in Figure 1 below, shows that Tier 3’s support of upstate nuclear generation will provide the large majority of the CES’s near-term carbon savings.⁷ This will keep carbon emissions down until renewables can achieve sufficient scale, and prevent backsliding on the gains already made and further gains targeted for the future. And since it is cumulative CO₂ that affects climate change, keeping emissions low in the intervening years is as important as achieving a low rate in the long run.

⁶ “Power Trends 2016,” New York ISO; 2015 generation by fuel source is reported at page 24.

⁷ Clean Energy Standard Whitepaper – Cost Study, New York State Department of Public Service, page 284.

The authors of “Green Overload” mischaracterize the CES’s procurement of renewable and nuclear generation, labeling it “in effect, taxes.” On the contrary, the CES is not a “tax” but a correction for an existing market distortion that comes from failing to incorporate carbon emissions. And as discussed above, Tier 3 will not increase overall customer costs, but will actually keep them lower.

Figure 1: DPS Study Chart Illustrates Upstate Nuclear (Tier 3) is a Bridge to New York’s Low Carbon Future



The “Green Overload” authors comment that

“The PSC has failed to heed lessons learned by other regulators who have steered electricity generation specifically toward renewables with unintended consequences. The German government, for example, promoted renewables in tandem with a movement away from nuclear energy, but still remains heavily dependent on coal-fired plants to meet peak demand.”

On the contrary – the PSC has heeded the German lesson. It recognizes the need to preserve nuclear generation at the same time it promotes renewables. When nuclear generation is lost and renewables cannot expand quickly enough to fill the void, the gap will be filled by fossil, and CO₂ emissions will rise. This is precisely what has occurred in Germany, which decided in 2011 to phase out nuclear power entirely by 2022. Shutting down its nuclear plants has forced Germany to rely more heavily on fossil energy in the interim, despite its extensive renewable expansion. Even as its renewable sector

successfully expands, it has not kept pace with the loss of nuclear generation, causing Germany's power sector CO₂ emissions to increase over the past several years.

“Green Overload’s” assertion that the CES is a job security program is misleading

The authors claim that the Tier 3 ZEC portion of the CES “amounts to a job-security program ... at a cost to ratepayers of up to \$229,000 per job per year.” This is highly misleading since it attributes the full direct cost of the program to the jobs that would be preserved. Job protection is not a motivation for the ZEC component of the CES; the program is motivated and justified by its environmental benefits. But in addition to these environmental benefits, the ZEC program actually saves customers money on balance, and boosts the economy, and it also preserves a number of jobs. These additional benefits, though they are very large, are essentially positive side effects of the program. It is inappropriate to weigh the direct costs of the program against these other effects individually.