

**Comment on Acadian Consulting Group’s
“Report on Nuclear Portion of Senate Bill 877”¹**

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Acadian Consulting Group recently released a “Report on Nuclear Portion of Senate Bill 877” (February 6, 2018) examining the nuclear portion of New Jersey Senate Bill 877 (S-877). This portion of S-877 proposes to create a program offering zero emission certificates (ZECs) to selected nuclear plants. A ZEC represents the environmental and fuel diversity attributes of nuclear generation; ZECs would help to support the selected plants and thus preserve those attributes. While the authors of the Acadian report claim to evaluate the economic impact of the nuclear program component of S-877, in fact they evaluate only the ZEC program’s direct costs, which they estimate at \$300 million per year. The report entirely ignores the ZEC program’s benefits, and thus offers an incomplete and misleading perspective. Our review of the Acadian report finds:

- **The Acadian report accounts only for the costs of the ZEC program, ignoring its benefits.**
 - We estimated previously that the Salem and Hope Creek nuclear plants provide environmental benefits of \$733 million per year.
 - We also found that these nuclear plants keep New Jersey electricity costs lower by \$400 million per year, before accounting for ZEC costs.
- **If the Acadian analysis had accounted for benefits as well as costs, it would have found the ZEC program has substantial net benefits.**
 - Estimated environmental benefits are much larger than direct ZEC costs.
 - Even looking only at power costs, the \$400 million in lower wholesale power costs is more than enough to offset \$300 million in direct ZEC costs. Thus the ZEC program will keep net electricity costs lower for New Jersey customers, not raise them.
- **Contrary to the implications of the Acadian report, the ZEC program will actually save customers money on electricity, and provide significant environmental benefits.**
 - This means the program’s objectives – i.e., environmental and fuel diversity benefits – can be achieved at no net cost to customers.
 - Lower electricity costs would mean additional indirect and induced economic benefits.

¹ This response was prepared at the request of PSEG and Exelon. It reflects the views of the authors and does not necessarily represent the opinions of The Brattle Group or its clients.

The benefits ignored by the Acadian report include the environmental and electricity price impacts of the nuclear plants. In our November 2017 report, we estimated the magnitude of both of these benefits.² We found that the Salem and Hope Creek nuclear plants in southern New Jersey provide \$733 million per year in environmental benefits, and keep wholesale power prices lower than without the plants, so that New Jersey electricity customers pay less for electricity – \$400 million less per year. Importantly, the direct ZEC cost estimated by Acadian, \$300 million, is substantially less than the \$733 million in environmental benefits. Although one might expect that electricity customers would have to pay more to achieve these environmental benefits, that is not the case. Keeping the nuclear plants will keep electricity costs lower by \$400 million, which is more than the \$300 million direct ZEC cost, so the ZEC program will actually reduce customers' net electricity costs. The ZEC program achieves significant environmental benefits for New Jersey, and saves electricity customers money.³

The Acadian analysis also considers the indirect and induced economic effects associated with the direct costs of ZECs, finding that \$300 million of direct ZEC costs would lead to additional indirect and induced economic effects of \$244 million per year, for a total of \$544 million per year in lost output due to the direct ZEC costs. If the Acadian analysis had also considered the electricity price effect which more than offsets the direct ZEC costs, it would have found a net reduction in customer costs, and would have found that the indirect and induced effects are also positive rather than negative.⁴

Finally, the Acadian report's estimate of \$300 million in ZEC costs is probably a modest overestimate. It does not account for the fact that the ZEC price (\$/MWh) is determined as total ZEC revenue divided by 40% of New Jersey's electricity consumption, while ZECs are paid only for actual nuclear generation, which would be less than 40%. If the Salem and Hope Creek plants are selected for the ZEC program, the ZEC cost would be about \$280 million per year.

Ultimately, the Acadian report is incomplete – ignoring all the benefits of the ZEC program and considering only its direct costs – and is therefore misleading. Any policy or program can be made to appear unattractive if its benefits are ignored and only its costs are considered. A balanced view of both the costs and benefits of S-877 shows that the program has substantial net benefits.

² Berkman, Mark and Dean Murphy, *Salem and Hope Creek Nuclear Power Plants' Contribution to the New Jersey Economy*. The Brattle Group, November, 2017.

³ Our November 2017 report was prepared prior to the advent of any specific policy proposal. Because of this, we were not able to incorporate the costs of preserving the plants (e.g., ZEC costs) in our analysis, and so we calculated the gross electricity cost and economic effects. We explicitly acknowledged that there would be costs to any program or policy to preserve the nuclear plants, and that these costs would need to be accounted for in order to evaluate any specific proposal to preserve the plants. In addition, the overall social welfare impact depends on the effects on producers, as well as consumers.

⁴ To obtain a precise estimate of the indirect and induced effects of the ZEC program, it would be necessary to use an economic model to characterize the combined costs and benefits. However, since the ZEC program would cause a net reduction in customer costs, it is clear that the overall economic effect would be positive.