
Memorandum

TO: CHRIS GEISSLER AND DAVE CAVANAUGH

FROM: JASON FROST AND DOUG HURLEY, ON BEHALF OF POWEROPTIONS AND THE NEW HAMPSHIRE OFFICE OF THE CONSUMER ADVOCATE

DATE: APRIL 29, 2021

RE: PATHWAYS TO THE FUTURE GRID INPUTS AND ASSUMPTIONS

Thank you for presenting initial inputs and assumptions for the Pathways to the Future Grid analysis that will model and evaluate the Forward Clean Energy Market (FCEM) and Net Carbon Pricing (NCP) proposals. One difference between these two proposals that impacts end users is the potential for costs to load from an increase in payments to efficient, moderate emissions fossil fuel powered generation. Under FCEM, it is likely that only zero emissions resources would be compensated for their ability to reduce environmental externalities produced by fossil fuel powered generators. Under NCP, by comparison, compensation occurs indirectly through increased energy prices. Relatively less polluting fossil fuel powered generators, such as more efficient combined cycle generators, may incur a smaller carbon price fee (in \$/MWh) in many hours than the carbon price incurred by the marginal generator. In this situation, the more efficient generator would see increased revenue despite not generating any carbon free energy that the region is seeking. It appears that the increase in revenue would be proportional to the amount of the carbon price. A higher carbon price would mean more revenue for more efficient fossil resources.

We would like the analysis to provide outputs that demonstrate the magnitude of this effect. We request that the analysis quantify the total net incremental payment to fossil fuel resources as a result of the net carbon pricing proposal. To understand the impact the carbon price has on LMPs and compensation to each class of resources, we specifically request that the following outputs be produced as part of the modeling process:

- The average impact of the carbon price on energy prices (in \$/MWh) based on the emissions rate of the marginal unit, weighted by
 - Zero emissions generation
 - Fossil fuel fired generation
 - Total generation (excluding imports)
 - Total load
- Total quantities (in MWh) of zero emissions generation, fossil fuel fired generation, and load
- Total carbon price payments charged to all emitting generators that are impacted by the program (or equivalently, the total amount rebated back to load under the NCP construct)

These key outputs will allow stakeholders to evaluate not only the total cost of the NCP structure, but also how the total cost to end users is distributed among generation types.

