

August 22, 2019

Dear Mr. Burr,

Center for Energy and Environment (“CEE”) appreciates the opportunity to provide input into the Department of Commerce (“Department”) stakeholder process to address issues and options for fuel switching in Minnesota’s Conservation Improvement Program (“CIP”). The Department requested that interested parties submit written comments via email with consideration of certain topics outlined by the Department in its request. CEE thanks the Department for engaging stakeholders on this issue. We respectfully submit the following comments in response.

We believe that it would be best to address fuel switching through enactment of the Energy Conservation and Optimization (“ECO”) legislation included in Governor Walz’ 100% Path to Clean Electricity initiative. That legislation was well-negotiated with a broad group of interests and reflects the key priorities of those negotiators, including regulators, consumer advocates, efficiency advocates, electrification advocates and utilities of all sizes and types.

However, we can support a regulatory path for limited forms of efficient fuel switching through CIP. We believe that those limited forms of efficient fuel switching should be focused on specific policy priorities, not necessarily specific use cases. Our policy priorities for efficient fuel switching in CIP include:

- 1) offering energy efficiency opportunities to increase the efficiency of homes and businesses of Minnesotans who do not currently have access to the state’s CIP, for space heating or other key energy services in the built environment;
- 2) ensuring quality installation and efficient operation of emerging, efficient fuel switching technologies; and
- 3) providing opportunities for utilities to encourage greater energy efficiency between the two fuel types currently covered by CIP within the built environment, electricity and natural gas.

In all cases, we believe that the criteria developed for and included in ECO for determining when a fuel switching measure is efficient should be applied.

Our emphasis on efficiency within the built environment is intentional. In our view, extending CIP beyond the built environment to include other sectors of the economy – strategic electrification of the transportation sector, for example – is a very significant expansion of CIP beyond its current boundaries, and should be authorized by legislation, as contemplated by the ECO legislative initiative.

Below we discuss our positions in more detail.

A Legislative Solution is Preferred

At its core, CIP is an energy conservation program that reduces consumer costs, reduces utility capital costs, and right-sizes energy loads. Any activity funded through CIP, including fuel switching technologies, should continue to support these outcomes. Allowing for utilities to pursue and claim energy savings for fuels that they do not sell is a complicated issue with the potential to result in less efficient energy consumption if not pursued with care. The rules around funding fuel switching through CIP must be crafted carefully to ensure that fuel switching does not replace traditional energy efficiency efforts and that CIP funds are creating real energy efficiency benefits and not resulting in utility investments that aren't needed and that customers shouldn't have to pay for. To stray from that lodestone would undermine the current CIP regulatory framework and cause costs to increase for utility customers.

Given the significant benefits that efficient fuel switching could provide, as well as the potential risks it may pose, CEE would prefer to address fuel switching broadly through the legislation that was broadly negotiated and proposed in the 2019 legislative session, contained as article 3 in HF 1956/SF 2431 (as introduced), rather than through the regulatory process. We believe that legislation enabling efficient fuel switching is better suited to creating the necessary structure and guidelines for efficient fuel switching, while protecting the state's energy efficiency program and achievements.

The Energy Conservation and Optimization legislation was carefully designed to protect the state's nation-leading traditional energy efficiency efforts, while supporting opportunities for demand response and efficient fuel switching. For Minnesota's municipal and cooperative utilities, ECO would allow the muni or coop to include efficient fuel switching and demand response programming in their ECO plans provided to the Department of Commerce. In addition, the muni or coop could count net energy savings from efficient fuel-switching measures toward their CIP targets (equivalent to 1.5% of their retail sales), but only above a 1.0% minimum energy savings achieved through traditional energy efficiency programs. For investor-owned utilities, ECO also allowed efficient fuel switching and demand response programming in their ECO plans filed with to the Department of Commerce, and allow recovery of the costs of those programs through the CIP rider. But, ECO required that net energy savings from efficient fuel switching be kept separate from the state's traditional energy efficiency program and CIP energy savings goals. In this way, utility customers would be assured that their energy utilities would continue to pursue traditional energy efficiency activities.

In addition, the legislation contained important criteria that the Department would apply to ensure that an allowed fuel switching opportunity was in the public interest. Under the legislation, A fuel-switching improvement is deemed efficient if the improvement, relative to the fuel that is being displaced, meets the following criteria:

- (1) results in a net reduction in the cost and amount of source energy consumed for a particular use, measured on a fuel neutral basis;
- (2) results in a net reduction of statewide greenhouse gas emissions as defined in section 216H.01, subdivision 2 over the lifetime of the improvement. For an efficient fuel-switching improvement that affects the customer's use of electricity, the change in emissions shall be measured based on the hourly emission profile of the utility or the utility's wholesale provider on whose system the electric technology is installed. Where applicable, the hourly emission profile used shall be most recent resource plan accepted by the commission under section 216B.2422;
- (3) is cost-effective from a societal perspective, considering the costs associated with both the fuel that was used and the fuel that will be used; and
- (4) will be installed and operated so as to not unduly increase the utility's system peak demand or require significant new investment in utility infrastructure.

The program design and criteria are necessary to ensure that efficient fuel switching creates customer, utility, and societal benefits without displacing or diminishing traditional energy efficiency efforts. All things being equal, utilities would rather implement programs to increase sales through efficient fuel-switching than programs to reduce sales through traditional energy efficiency. Both sets of programs can provide public benefits, so a policy structure that protects efficiency while promoting efficient fuel switching is necessary.

We are concerned that a regulatory path for fuel switching through CIP may not be able to import adequate protections for the state's energy efficiency program. We believe that protecting the integrity and success of the state's energy efficiency program is of primary importance. Energy efficiency results in reduced consumer costs, reduced utility capital costs, the right-sizing of energy loads, and environmental benefits. Though fuel switching can create important benefits, we must ensure that utilities continue to invest aggressively in traditional energy efficiency, Minnesota's preferred energy resource.

In addition to the protections that legislation can provide, a legislative solution would allow for the broadest scope of technologies, fuels, and applications, while a regulatory path may be more constrained. For example, the ECO legislation, as noted above, would allow for demand response programs and modules to be integrated into a utility's overall plan. That is not allowed under CIP unless the demand response measure reduces energy consumption. In addition, ECO could allow

programs for strategic electrification of transportation, whereas the current CIP framework is properly understood to apply to the built environment.

A Limited Regulatory Path

Though CEE believes that efficient fuel switching, in a broad sense, would best be addressed through legislation, we can support extending CIP in targeted ways to include efficient fuel switching through regulatory action, limited to priority areas we describe below. However, any allowance for efficient fuel switching in CIP should include clear criteria to ensure that any fuel switching funded through CIP will be sure to advance the public interest.

Clear Criteria. Cost-effective energy savings is the primary objective and metric of CIP. There are a number of co-benefits to energy savings – saving customers money, making businesses more productive and competitive, avoiding utility infrastructure investments, as well as reducing carbon emissions.

Not all fuel switching results in energy savings or the other benefits of energy conservation noted above. Therefore, there must be clear criteria for when fuel-switching technologies should qualify for CIP. That criteria should limit any fuel switching opportunities allowed through CIP to those opportunities that meet the objective of CIP, reducing energy consumption, and avoid unintended consequences like increased customer costs, increased carbon emissions, or increased peak demand.

We believe the criteria that was developed and included in the ECO legislation should be applied to any fuel-switching technology supported through the CIP regulatory framework. We restate those here – any fuel-switching measures allowed through CIP must:

- result in a net reduction in the cost and amount of source energy consumed for a particular use, measured on a fuel neutral basis;
- result in a net reduction of statewide greenhouse gas emissions as defined in section 216H.01, subdivision 2 over the lifetime of the improvement. For an efficient fuel-switching improvement that affects the customer’s use of electricity, the change in emissions should be measured based on the hourly emission profile of the utility or the utility’s wholesale provider on whose system the electric technology is installed. Where applicable, the hourly emission profile used should be the most recent resource plan accepted by the Minnesota Public Utilities Commission under section 216B.2422;
- be cost-effective from a societal perspective, considering the costs associated with both the fuel that was used and the fuel that will be used; and

- be installed and operated so as to not unduly increase the utility's system peak demand or require significant new investment in utility infrastructure.

Priorities for Efficient Fuel Switching Through Regulatory Action. CEE can support extending CIP through regulatory action to include efficient fuel switching efforts if those efforts are limited to specific policy priorities listed below.

Increasing Access to Energy Efficiency Opportunities

Currently, the state's CIP is offered through regulated natural gas and electric utilities. However, a significant number of Minnesota homes and businesses, particularly in greater Minnesota, have space heating served by delivered fuels or who are served by utilities that are not covered by CIP. These homes and businesses do not have access to energy efficiency programs. CEE believes that expanding access to energy efficiency services for all Minnesotans should be a policy priority for efficient fuel switching in CIP. For example, allowing electric utilities to incentivize building envelope improvements and efficient electric heating technology to customers that currently heat with delivered fuels would advance this policy priority.

We believe that all Minnesotans should have access to energy efficiency programs and the customer benefits they provide. Expanding offerings for CIP is especially important for space heating, which represents one of the largest energy end-uses in the state, both in terms of energy consumption and energy costs. Not providing opportunities for conservation of that large energy end-use not only leaves some customers without cost-savings options, but also leaves significant, potential energy-savings benefits to the state untapped.

For these reasons, we recommend that regulatory action aimed at allowing limited forms of efficient fuel switching should prioritize opportunities to expand energy efficiency opportunities to those who are currently unserved by the state's CIP. Otter Tail Power's November 17, 2018 CIP Modification Request in Docket Number E017/CIP-16-116 is a good example of the type of efficient fuel switching offering that would support this policy priority. In the request, Otter Tail Power proposed to provide CIP rebates and claim the associated energy savings for customers who install air source heat pumps and have a heating system supplied by a delivered fuel or a CIP-exempt natural gas provider. CEE supported that proposal, with the important proviso described below.

Quality Installation and Operation of Emerging Technology

Some efficient fuel switching opportunities are emerging technologies, for which contractors and installers have limited experience. It is important that efficient fuel switching technologies are installed in a way to maximize efficiency and benefits, as well as performance. Efficient technologies, if installed improperly, may not produce customer cost savings or reduced carbon

emissions, and may not perform up to customer expectations. Thus, improper installation could undermine the goals of CIP and potentially undermine market uptake for efficient fuel switching technology. Therefore, we recommend that a policy priority of any efficient fuel switching opportunities allowed through CIP should be to ensure proper installation and operation of efficient fuel switching technology.

Again Otter Tail Power's November 17, 2018 CIP Modification Request in Docket Number E017/CIP-16-116, provides a good example of this. Cold climate air source heat pumps are a relatively new technology in Minnesota and many installers throughout the state have limited experience and expertise in the installation protocols that maximize efficiency and result in optimal performance. CEE's January 16, 2018 Comments in response to Otter Tail Power's Modification Request outline our recommended installation protocols and the appropriate energy-savings calculations to account for those protocols.¹ These recommendations come from CEE's field study of cold-climate air source heat pumps used in combination with an existing secondary heating system. Through that field study, CEE installed eight cold-climate air source heat pump systems in Minnesota homes along with monitoring equipment. Data was collected for two years and analyzed to characterize heat pump performance and compare air source heat pumps to baseline systems.

We recommend that any regulatory action to allow for efficient fuel switching in CIP adopt our recommendations regarding installation protocols for air source heat pumps as described in Docket Number E017/CIP-16-116. We also recommend that proper installation and operation of technology be a focus of any other efficient fuel switching technologies that may be allowed through CIP.

Efficiency Opportunities for Utilities to Fuel-Switch Between CIP-Regulated Fuels in the Built Environment

Currently, a utility can only reduce its own fuel through CIP, even if the customer would be more efficiently by a different fuel. We recommend that regulatory action could be taken to allow for utilities to pursue and take credit for energy efficiency from fuel-switching between the two fuel types regulated by CIP (natural gas and electricity) within the built environment. For illustration, a natural gas utility could provide rebates for their customers to install an air source heat pump (an electric measure) to offset the use of natural gas for space heating. This hypothetical natural gas utility could then take credit for the reduction in the customer's natural gas consumption, net of the increased electricity consumption. This concept could apply to both natural gas and electric utilities.

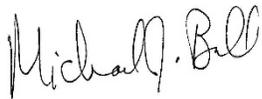
¹ Page 4 of CEE's January 16, 2018 Comments in Docket Number E017/CIP-16-116.

In our view, extending CIP beyond the built environment to include other sectors of the economy – strategic electrification of the transportation sector, for example – is a very significant expansion of CIP beyond its current boundaries, and should be authorized by legislation, as contemplated by the ECO legislative initiative.

Allowing fuel switching in these limited circumstances and according to these criteria would enable utilities to unlock greater customer, environmental, and system-wide benefits – allowing utilities, advocates, regulators and others to explore and capture opportunities for efficient fuel-switching without undermining the current CIP framework that has worked so well for so long.

We thank you for consideration of our comments. If you have any questions, please contact me at mbull@mncee.org.

Sincerely,

A handwritten signature in black ink that reads "Michael J. Bull". The signature is written in a cursive, slightly slanted style.

Mike Bull, Director
Policy and External Affairs