

December 4, 2020

Samantha Meserve  
Massachusetts Department of Energy Resources  
100 Cambridge Street, Suite 1020  
Boston, MA 02114

**RE: 2020 APS Minimum Standard Review Stakeholder Questions**

Dear Ms. Meserve,

Enbridge, Inc. (Enbridge) appreciates the opportunity to comment in the APS Minimum Standard Review Stakeholder Comment process convened by the Massachusetts Department of Energy Resources (“DOER”).

Enbridge is a company which fuels quality of life, delivering the energy people need and want, safely and responsibly. Consistent with our new Environmental, Social, and Governance (ESG) goals announced in November, we are pursuing efforts to become an even more sustainable provider of energy. In Massachusetts, we operate the Algonquin Gas Transmission and Maritimes and Northeast pipeline systems, which have been delivering affordable, reliable natural gas to consumers in the region for decades.

With this background, Enbridge would like to offer general comments in response to DOER’s request for stakeholder comments regarding the APS standard review.

From a technology perspective there is an opportunity to further incentivize micro combined heat and power (mCHP) in the residential and commercial sector. By enabling the adoption of mCHP units in single family homes, residential, and commercial applications, the state could allow consumers to realize the same economic, reliability, and resilience benefits that has been afforded to larger institutions by the program. The natural gas delivery system has been and continues to be tremendously reliable. Above-ground power lines are known to experience issues during inclement weather which lead to power outages, and experience inefficiencies due to line loss, thereby wasting energy. An overreliance on electrification can exacerbate these issues, while a balanced approach which also includes greater use of existing natural gas infrastructure and CHP units, can help lead to greater reliability and efficiency for ratepayers.

The California Energy Commission commissioned a study conducted by ICF, Southern California Gas Company, and DE Solutions assessing combined heat and power (CHP) technologies and applications less than 5 megawatts (MW) for residential, commercial, and light industrial markets in California. The study found that while economics and resilience are expected to be the primary drivers for CHP adoption in California, there will also be societal benefits from CHP installations as higher energy efficiencies and reduced greenhouse gas emissions compared to separate heat and utility power. The study estimated that in 2037, 1.9 GW of small and micro CHP will be adopted, resulting in 39 million MMBtu/year of fuel conserved (primarily natural gas), a savings of 23 percent compared to separate heat and utility power.

Additionally, 3,200 tons per year of NOx emissions and more than 1 million tons of carbon dioxide (equivalent) greenhouse gas emissions would be reduced on an annual basis.<sup>1</sup> These same environmental benefits afforded by the overall efficiency of CHP and mCHP could be further enhanced by creating conditions which foster the adoption of Renewable Natural Gas (RNG) on a larger scale.

Renewable natural gas is derived from decomposing organic matter and is pipeline quality gas that is fully interchangeable with conventional natural gas. RNG has even greater benefits when it is produced from organic waste that would otherwise decay and create methane emissions. By capturing more greenhouses gases than it emits, this RNG is considered carbon negative. Renewable natural gas creates a sustainable outlet for food and animal waste while reducing emissions in the agriculture and waste management sectors. Introducing and increasing the percentage of RNG in the fuel mix allows utilities to meet state reduction goals. A recent study completed by ICF on behalf of the American Gas Foundation found that the technical resource potential of RNG in the state of Massachusetts is approximately 64.6 tBtu per year<sup>2</sup>, or enough RNG supply to meet over 20% of Massachusetts residential, commercial, and industrial natural gas demand based on 2019 usage of the combined sectors.<sup>3</sup> More broadly the study found that the technical resource potential for RNG in New England to be 182.7 tBtu per year<sup>4</sup>, or enough to supply 60% of the demand of these combined sectors in the state of Massachusetts.

The above figures do not consider the opportunity for hydrogen blending in the pipeline infrastructure. As renewable energy capacity grows in Massachusetts, Power-to-Gas presents an opportunity to effectively store and utilize renewable energy that would otherwise be curtailed in the absence of demand. The produced hydrogen can be used to meet supply needs in gas distribution while simultaneously decarbonizing supply. Decarbonizing the fuel being delivered by pipeline infrastructure by optimizing renewable natural gas and Power-to-Gas enables consumers in Massachusetts to extend the useful life of the assets in the ground and in their homes, cost effectively delivering cleaner energy to residential, industrial and commercial customers.

The allowance of indirectly delivered RNG to highly efficient, reliable, resilient combined heat and power and micro-combined heat and power units will result in further reducing Massachusetts CO2 emissions while simultaneously reducing ISONE peak demand and increasing electric grid resiliency and reliability.

Enbridge looks forward to continuing to engage in the APS Minimum Standard Review process.

Sincerely,



Caitlin Tessin

Director, Market Innovation

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<sup>1</sup> California Energy Commission, *A Comprehensive Assessment of Small Combined Heat and Power Technical and Market Potential in California*, 2019, <https://www2.energy.ca.gov/2019publications/CEC-500-2019-030/CEC-500-2019-030.pdf>

<sup>2</sup> American Gas Foundation, *Renewable Sources of Natural Gas: Supply and Emissions Reduction Assessment*, 2019, <https://gasfoundation.org/wp-content/uploads/2019/12/AGF-2019-RNG-Study-Full-Report-FINAL-12-18-19.pdf>

<sup>3</sup> EIA estimates Massachusetts' 2019 Natural Gas use by sector, [Massachusetts Natural Gas Consumption by End Use \(eia.gov\)](https://www.eia.gov/state/naturalgas/massachusetts/)

<sup>4</sup> American Gas Foundation, *Renewable Sources of Natural Gas: Supply and Emissions Reduction Assessment*, 2019, <https://gasfoundation.org/wp-content/uploads/2019/12/AGF-2019-RNG-Study-Full-Report-FINAL-12-18-19.pdf>