

From: [Mike Savage](#)
To: [PublicComments, PUC](#)
Subject: [EXTERNAL] : Fwd: Future of Gas Comments
Date: Wednesday, October 12, 2022 1:37:57 PM

My name is Michael Savage and I am Vice President of Business Development for Vergent Power Solutions based in Woburn, MA and a resident of MA. We are a gas user in RI primarily in the Buildings and Power sectors and supply cogeneration equipment as well as source decarbonization options for natural gas and biogas fuels. Gas needs to be a part of the future - it can decarbonize and the reductions are a meaningful, resilient part of a hybrid electrification solution.

I focus on the hard to decarbonize and electrify high temperature heating applications like steam for process or space heating which may use cogeneration or a boiler. The equipment has a useful life and available fuels and technologies exist today like RNG and carbon capture to help the gas system decarbonize.

1) **RNG** has a carbon intensity that varies with its feedstock. RNG captures harmful methane that could vent to the atmosphere and is used in combustion which turns it to CO₂. Landfill gas is the most plentiful and that has a carbon intensity (CI) score (CARB uses GREET Model which includes upstream and downstream intensity) of about 50% of natural gas. There is digester gas that has a negative CI score. RNG can thus be a bridge fuel or net zero solution depending on which choose or how much you blend in.

2) **Carbon capture** can remove emissions after the combustion of RNG or natural gas through an adsorption process. The liquid CO₂ can be reused or permanently sequestered.

3) **Cogeneration with RNG.** The RI grid is primarily natural gas based as of now. Cogeneration is energy efficiency and uses less fuel compared to the grid and separate boiler. Its around 600 lbs/ MWh which is 25% less than the EPA 2020 egrid baseload for RI which is about 800 lbs/ MWh. Blending in RNG helps cogen to continue to lower emissions in the future as the grid gets cleaner with off-shore wind.

On both a cost per MT of CO₂ removed and absolute operating expense these decarbonization options are superior to trying to electrify high temp heating like an electric boiler and powering it with renewable power. I encourage the PUC to lay out all of the decarbonization options on a common scale like carbon intensity and cost per MT of CO₂ removed. I think you will find that RNG and carbon capture will be on the lower end of the spectrum and electrification especially of high temp applications (like an electric boiler) will be on the high end. I have done the analysis if you would like to see it. I also compare the gas decarbonization options to solar, energy efficiency, etc. on a cost per MT of CO₂ removed. It is often far cheaper and it is in a harder area with fewer options on the thermal side.

The gas system is a separate energy source that needs to be maintained so there is strategic resiliency, alternatives with pricing/ supply and hybrid solutions. Hybrid solutions can each take a % of the decarbonization reductions - let each do what they are good and cost effective at.

Attached are different carbon intensities per the CARB.

Regards,

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Average CI Score (g CO₂/MJ)

In Transportation Applications

