RIEC 4

Net GHG Emissions

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The Current Method of Netting Emissions

1. Greenhouse gas sources and sinks are each summarized as $MMTCO_2e$ (net of each GHG).
2. Sinks are subtracted from sources.

- Netting sums the net measurements of all atmospheric emissions over a timeframe.
- Net emissions are currently calculated **annually.**

Rhode Island 2022 Climate Update, p. 22

Netting Timeframe

Current practice is netting over the span of one calendar year .

- Also possible to net over seasons, months, years, days, hours, etc.
- Appropriate for complex, changing systems

Advantages of Shorter Netting Timeframe (ex. subannually, seasonally, etc.)

✓ Efficient for sectors with 'seasons' such as heating

✓ Efficient for sectors with insensitive emissions profiles such as manufacturing

✓ Can provides insights for seasonal emissions patterns and/or related emissions reduction strategies

Disadvantages of Shorter Netting Timeframe

x Can get incorrect results or false insights due to natural variation in societal behaviors, the economy, and the environment

Rhode Island 2022 Climate Update, pp. 18-23

Important Considerations

- Limits of current inventory strategies and technologies
- Strain on administration of inventorying greenhouse gas emissions
- "Mitigate first, net as a last resort"

Rhode Island 2022 Climate Update, p. 21-22

What point-of-view of emissions reduction does the Act and EC4 take?

The Act and EC4 aim to reduce greenhouse gas emissions across the entire state, and works closely with other states in the region to understand flow of emissions.

It primarily aims to eliminate Scope 1 and Scope 2 emissions, and reduce Scope 3 emissions.

Rhode Island 2022 Climate Update, pp. 21-22

Do the cumulative emissions between now and 2050 matter under the Act?

The Act acknowledges the need to mitigate greenhouse gas emissions in the time before the 2050 mandate.

Establishment of Economy-Wide Emissions Reduction Targets Before 2050

- ✓ 10% below 1990 levels by 2020
- ✓ 45% below 1990 levels by 2030
- ✓ 80% below 1990 levels by 2050

Rhode Island 2022 Climate Update, pp. 15-22; *Rhode Island 2021 Act on Climate*, § 42-6.2-9. Statewide greenhouse gas emission reduction mandate

Appendix

Defining Net-Zero Emissions by 2050

The 2021 Act on Climate sets forth a mandate to reach 'net-zero emissions by 2050' (RIGL 46-6.2). However, the law does not define the terms 'net-zero' or 'emissions', and therefore leaves open questions of which emissions, how we net those emissions, and on what timeframe the netting occurs. Following public discussions held in three sharing sessions and supplemented by online comments, we propose the following definitions and offer several critical caveats related to how our definitions may evolve over the next three decades.

> 'Emissions' refer collectively to the set of greenhouse gases that contribute to climate change. Based on current science, greenhouse gases include carbon dioxide, methane, nitrous oxide, and fluorinated gases. The greenhouse gases included in our definition of emissions may evolve over time if climate science uncovers additional gases contributing to climate change.
>
> 'Net-Zero' refers to the requirement that the summary measure of greenhouse gas emissions emitted over the course of a calendar year less the summary measure of greenhouse gas emissions absorbed or otherwise broken down over the course of a calendar year equals zero. All emissions can be summarized in a measure such as million metric tons carbon dioxide equivalent ($MMTCO_2e$) using global warming potential factors which adhere to international standards, including those of the IPCC[6] and UNFCCC[7], and are embedded within the US EPA's[8] greenhouse gas emissions inventory tools.

Rhode Island 2022 Climate Update, pp. 18