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Advancing the Clean Energy Future
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Executive Climate Change Coordinating Council (EC4)
Terry Gray, Chair of the EC4 and Director of the RI Department of Environmental Management
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# Comments on Rhode Island's 2025 Climate Action Strategy Executive Summary

Dear Members of the EC4 and the McKee administration:

Thank you for the opportunity to provide comments on the Executive Summary of the 2025 Climate Action Summary. Acadia Center is a non-profit research and advocacy organization committed to advancing the clean energy future. The EC4's development of the 2025 Climate Strategy represents a critical juncture in Rhode Island's path to achieving the targets for greenhouse gas (GHG) emissions reductions mandated in the 2021 Act on Climate. Acadia Center is committed to developing courageous solutions that will have the greatest impact on carbon emissions in Rhode Island and across the region. Unchecked GHG emissions continue to push the climate towards an unstable and dangerous state, and there is no time to waste in building the clean energy future.

## Meeting the Moment with Courage, Action, and Accountability

The tone of the 2025 Climate Strategy, as set in the EC4's introductory letter, does not reflect the courage required for the state to meet the current moment. The shifting federal policies and economic landscape must inspire action, not acquiescence, from the EC4 and the Governor, to advance, aggressively, all that remains within the control of the State of Rhode Island – state authorities that remain extensive despite current limits on federal support. Despite the introductory tone, the Executive Summary of the 2025 Climate Action Strategy ("Summary" or "2025 Climate Strategy") asserts correctly that the benefits of pursuing climate action outweigh the costs.

Gubernatorial leadership is required to drive the actionability of the 2025 Climate Strategy and accountability across state agencies. The mandate for the 2025 Climate Strategy in R.I. G.L.§ 42-6.2-2 calls for "an updated plan, following an opportunity for public comment, that includes strategies, programs, and *actions*." The Summary and 2025 Climate Strategy unfortunately falls short of this mandate in multiple respects. Acadia Center further seeks to raise procedural and technical concerns regarding the development of the 2025 Climate Strategy.

While Acadia Center appreciates the inclusion of specific potential climate actions strategies the state *could* consider, the organization is concerned by the lack of commitment to any particular set of strategies. Echoing a

key theme of stakeholder engagement, Acadia Center invites the EC4 to embed more urgency and accountability in the 2025 Climate Strategy. Specifically, Acadia Center urges the EC4 to clearly delineate implementation priorities, responsible actors, and timelines in the 2025 Climate Strategy.

## Lack of Transparency in Development of 2025 Climate Strategy Not Conducive to Meaningful Stakeholder Engagement

Acadia Center appreciates the stakeholder engagement conducted by DEM and consultants on behalf of the EC4 throughout 2025, beginning with the January 2025 kick-off. However, this comment period fails to offer the opportunity for stakeholders to review and provide feedback on the entirety of the 2025 Climate Strategy. The highlighted placeholder for "EC4 options for implementation" in the Summary is a particularly glaring omission. The results and key findings shared in the fall at public webinars and in the Summary offer limited transparency on underlying modeling and assumptions, citing studies that either aren't published or publicized (e.g., estimates of heat pump adoption resulting from the Heat Pump Accelerator that are not publicly available, RIDOT modeling, etc.).

The lack of detail on the specifics of potential carbon reduction strategies also raises major concerns. This issue is particularly acute when it comes to the quantitative analysis underpinning the emissions avoided estimates associated with individual strategies – the lack of transparency as to how those emission avoided estimates were arrived upon is extremely concerning because it significantly hampers the ability of stakeholders to meaningfully evaluate the potential strategies and raises concerns regarding the legitimacy of emissions avoided estimates associated with the strategies.

The 2025 Climate Plan also doesn't meaningfully engage with the incredibly high level of risk associated with some of the decarbonization strategies integrated into the 2025 Climate Strategy – in particular, the Biodiesel Heating Act biodiesel/renewable diesel 50% blending requirement by 2030 faces significant risk on multiple fronts (supply, technical practicality, cost, questionable emissions benefit, etc.) and runs counter to the state's primary building decarbonization strategy (electrification paired with envelope efficiency). Due to this and other risks outlined below, the Summary's claim that "Current state laws and policies are projected to meet RI's 2030 target" is uncertain and undermines the necessity of immediate action across sectors.

Acadia Center would also like to flag and request further information on an outcome of the 2025 Climate Strategy promised in early phases of engagement – sector-specific GHG target development. Other New England states like Massachusetts have established binding sector-specific decarbonization targets for good reason – it creates accountability within specific sectors and within the state agencies primarily responsible for decarbonization within a specific sector to enact programs and policies designed to achieve sector-specific emission reduction targets, as opposed to the status quo approach of a somewhat nebulous economy-wide emission reduction target. Rhode Island's sector specific targets should encompass emission reduction targets for each of Rhode Island's GHG emission categories, including transportation, buildings, electricity, and industry and waste, and which are in line with the overall economy-wide mandates for the dates of 2030, 2040 and 2050.

## Lack of Transparency Regarding Assumptions Underpinning Both the "Current Policy Scenario" and "Potential Carbon Reduction Strategies" Raises Concerns and the Distinction Between the Two is Muddled

The Current Policy Scenario estimates that Rhode Island will reduce economy wide emissions 33% by 2030 relative to 2022 levels, and the Summary states, "The analysis indicates that **if current policies and programs are successfully implemented, Rhode Island is on track to meet its 2030 emissions reduction target of 45% below 1990 levels**." This Current Policy Scenario makes a few key assumptions:

- The Current Policy Scenario assumes Rhode Island adopts both Advanced Clean Cars II (ACCII) and Advanced Clean Trucks (ACT) despite pending uncertainty regarding the Zero Emission Vehicle (ZEV) waiver. The Trump Administration attempted to rescind the waiver in June of 2025.
- The Current Policy Scenario assumes a handful of key existing programs/policies already on the books will drive down emissions, including, as summarized on page 8 of the Summary:
- 1) The Renewable Energy Standard,
- 2) Existing State Energy Efficiency Programs,
- 3) Existing state heat pump incentives like Clean Heat RI, and
- 4) Existing state electric vehicle incentives such as DRIVE EV program.
- Not mentioned on page 8 of the Summary is the Biodiesel Heating Oil Act of 2013/2021 that requires, by 2030, 50% of all heating oil in the state sold to be either biodiesel or "renewable hydrocarbon diesel" (also known as renewable diesel).

There is a general lack of transparency regarding how the Current Policy Scenario emission reduction trajectory was calculated – the sector-by-sector emission reduction trajectory under the scenario was eventually shared with stakeholders (posted five days before the comment deadline), but the underlying assumptions/calculations concerning specific policies/programs driving emission reductions in a particular sector was not disclosed, leaving stakeholders to take educated guesses. For example, the Current Policy Scenario assumes that Residential Building Sector emissions will decrease 29% by 2030 – an ambitious estimate assuming status quo continuation of existing policies and programs – but it is not made clear which existing policies and programs are primarily responsible for that overall reduction, for instance: the State's current EE program, Clean Heat RI, the Biodiesel Heating Oil Act, or beyond. Stakeholders are left guessing with questions like, "What are the assumptions regarding the performance of the state's energy efficiency program in 2027-2030 (years not covered by the existing Three-Year Plan)?" This is an overarching process issue that makes meaningfully engaging with and commenting on the plan incredibly challenging for stakeholders.

The RI Climate Action Strategy and CCAP: Potential Carbon Reduction Strategies Presentation ("Potential Strategies Presentation") from October 16, 2025, provides the most detailed look at potential reduction strategies that would functionally lower emissions beyond the Current Policy Scenario trajectory, but it lacks depth and detail – particularly when discussing existing policies and programs (e.g. Biodiesel Heating Oil Act) and the distinction between what is captured in the Current Policy Scenario vs. "Possible Carbon Reduction Strategies" is not clear. For example, "Maintaining and Adjusting Existing State Energy Efficiency Program Incentives" is

considered a Potential Reduction Strategy (as opposed to part of Current Policy) and it's not clear how this potential strategy differs from the level of EE program incentives and resulting energy savings captured in the Current Policy Scenario. The proposed Maintaining and Adjusting Existing State Energy Efficiency Program Incentives strategy is estimated in the consulting team to reduce emissions by 20,000 $MTCO_2e$ in 2030, which seems comparatively small versus other building decarbonization potential strategies like Government Building Decarbonization that is estimated to reduce emissions by 50,000 MT CO2e in 2030, but it's not possible to meaningfully comment on either strategy because no details are provided on either strategy. Four of the seven potential building decarbonization strategies were at least given a single slide providing a high-level overview of the strategy, but the two discussed above were not.

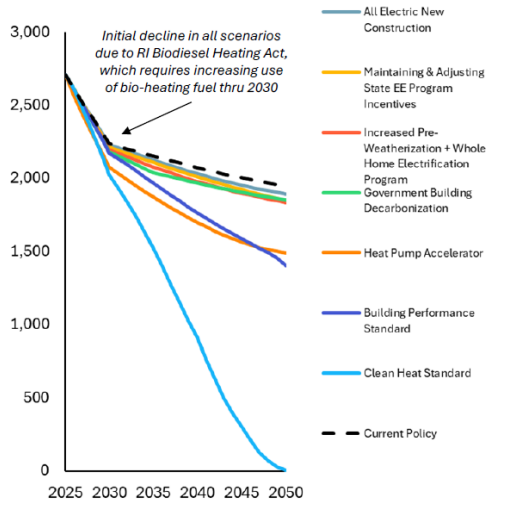
**Thus, Acadia Center recommends providing stakeholders with more details on the assumptions and underlying calculations used to estimate the emission reduction potential of individual strategies, including both the new potential strategies and the existing policies and programs embedded in the Current Policy Scenario.**

## Summary of Possible Carbon Reduction Strategy Results for Buildings

DRAFT

**Building Sector Emissions by Strategy**

ktCO2e




**Annual GHG Emissions Reductions vs. Current Policy (thousand metric tons CO2e)**

| Possible Strategies | 2030 | 2040 | 2050 | *Cumulative thru 2050* |
|---|---|---|---|---|
| All Electric New Construction | 10 | 40 | 50 | ***800*** |
| Maintaining and Adjusting Existing State Energy Efficiency Program Incentives | 20 | 60 | 100 | ***1,400*** |
| Increased Pre-Weatherization + Whole Home Electrification Program | 40 | 90 | 110 | ***1,900*** |
| Government Building Decarbonization | 50 | 110 | 110 | ***2,100*** |
| New England Heat Pump Accelerator | 160 | 380 | 460 | ***7,800*** |
| Building Performance Standard | 60 | 310 | 540 | ***6,400*** |
| Clean Heat Standard | 210 | 1,170 | 1,940 | ***24,500*** |

Energy+Environmental Economics

These strategies represent ***potential*** options, i.e., a menu of ideas that Rhode Island could consider, not actions that are currently adopted or committed to for implementation

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The 2025 Climate Strategy makes no real attempt to grapple with the several key existing state programs and policies – including the state's energy efficiency program and the Biodiesel Heating Act. In the case of the existing energy efficiency program, there is no meaningful discussion or details on what the program is currently doing well and how the program can be improved in the coming years to accelerate building decarbonization and deliver energy savings to customers, outside the single slide discussing the potential Pre-Weatherization + Whole

Home Electrification Strategy. In the case of the Biodiesel Heating Act, the 2025 Climate Strategy fails to ask several key questions, discussed in the section below.

## The Biodiesel Heating Oil Act Presents an Extremely High Level of Risk to the State That is Not Addressed in the 2025 Climate Strategy

The 2025 Climate Strategy should include a rigorous analysis and discussion of the risks associated with Biodiesel Heating Oil Act compliance and, ultimately, make a recommendation that the law be repealed because it jeopardizes the ability of the state to achieve its climate targets and ultimately conflicts with the primary building decarbonization strategy in the state (electrification paired with building envelope improvements). The current 2025 Climate Strategy contains neither and the section below discusses in detail why this is one of Acadia Center's primary concerns with the current version of the 2025 Climate Strategy.

Currently, about 32% of Rhode Island households heat with heating oil and heating oil combustion accounted for 46.5% of total residential sector emissions and 24.4% of total Commercial Sector emissions in 2022[1]. Although this is not clearly documented in the 2025 Climate Strategy analysis, Acadia Center expects that the analysis assumed:

- 1) A 50% biodiesel/renewable diesel heating oil blend across the state by 2030 and;
- 2) Zero emissions associated with biodiesel/renewable diesel combustion (the current accounting methodology used in the RI GHG Inventory)

The Current Policy Scenario assumes total Residential Sector emissions decrease 29% from 2022-2030, a reduction of 0.61 MMT $CO_2e$. From the modeling assumptions shared with stakeholders, it's not entirely clear the modeled percent decrease in heating oil consumption (combined fossil heating oil, biodiesel, and renewable diesel) from 2022 to 2030. The Current Policy Scenario assumes a 34.4% decrease in fossil distillate consumption statewide across sectors (27.2 TBtu in 2022 → 17.9 TBtu in 2030), but that data likely combines heating oil and diesel transportation consumption (no breakout is provided). The Current Policy Scenario also assumes an 838% increase in renewable distillate consumption statewide over the same time period, again likely across some combination of building and transportation sectors.

**That being said, if one assumes total delivered heating oil of all forms (conventional fossil heating oil + biodiesel + renewable diesel) consumption remains constant from 2022 to 2030 in the Current Policy Scenario, under the assumptions outlined above, the Biodiesel Heating Oil Act of 2013/2021 alone is responsible for approximately 82% (0.49 MMT CO2e avoided) of all Residential Sector emission reductions from 2022-2030 projected under the Current Policy Scenario. The Biodiesel Heating Oil Act has a similar impact in the Commercial Sector. The Current Policy Scenario assumes Commercial Sector emissions decrease 15% from 2022-2030, a reduction of 0.13 MMT $CO_2e$, with the Biodiesel Heating Oil Act responsible**

[1] The percent of total 2022 Residential Sector and Commercial Sector emissions attributable to combustion of heating oil was obtained through direct communication with RIDEM staff.

**for an estimated 80% (0.10 MMT $CO_2e$) of all Commercial Sector emission reductions from 2022-2030.** There is likely some modeled decline in total heating oil consumption (of all forms) due to heat pump deployment and envelope improvements, so the 82% and 80% figures above are likely overestimates, but the point remains that the Biodiesel Heating Oil Act is a core driver of building sector emission reductions in the Current Policy Scenario.

However, this point is not clearly articulated in the 2025 Climate Strategy materials provided to stakeholders, which in itself is problematic. There is no discussion of the Biodiesel Heating Act in the Summary, aside from a mention in passing in the Conclusion section.

Acadia Center has commented extensively on the risks posed by building decarbonization strategies reliant on "alternative fuels" (including biodiesel, renewable diesel, and renewable natural gas) in the context of the Rhode Island Public Utilities Commission (RIPUC) Docket No. 22-01-NG: Investigation Into the Future of the Regulated Gas Distribution Business in Rhode Island in Light of the Act on Climate ("FOG Docket"). See Acadia Center's March 2024 comments in Response to Rhode Island Future of Gas Technical Analysis Draft Results and the organization's October 2024 comments in response to the Rhode Island Future of Gas Policy Report Outline. Many of the same general principles discussed in those comments relating to the risk of decarbonization strategies reliant on RNG apply to strategies reliant on biodiesel or renewable diesel, including the Biodiesel Heating Oil Act.

**Acadia Center is not the only organization that thinks building decarbonization strategies reliant on biofuels present enormous risk – this is scientific consensus – and the level of risk associated with these strategies was a key takeaway from the FOG Technical Analysis Report ("FOG Technical Report"), which was authored by the same consulting group hired to support the development of the 2025 Climate Strategy.** However, the discussion of risk associated with biofuel decarbonization strategies is not present in any of the 2025 Climate Strategy materials shared with stakeholders to date. This is highly problematic, because it gives the false sense that building sector emissions will decline by 25% between 2022 and 2030 with current policy, playing a key role in achieving the overarching 2030 target, but over 80% of that decrease in the Building Sector is driven by biodiesel/renewable diesel blending with dubious climate benefits and multiple significant hurdles to actually being implemented.

The FOG Technical Report explicitly makes the recommendation that this level of risk associated with alternative fuels should be addressed directly in the policy development phase of the FOG docket (the FOG Policy Report has not yet been released) and the same principle should apply to the Climate Plan:

> *"The Technical Analysis demonstrates significant uncertainty associated with the availability, costs and efficacy of renewable fuels. This highlights the need for ways to mitigate uncertainty that can be addressed in the policy development phase of the Docket."* [2]

[2] Rhode Island Investigation into the Future of the Regulated Gas Distribution Business, Technical Analysis Report, page 12 https://www.ethree.com/wp-content/uploads/2024/06/Docket-22-01-NG-E3-Technical-Analysis-Report.pdf

On this topic, the FOG Technical Report goes on to state:

> *"The significant uncertainty associated with the availability and cost of renewable fuels, as well as the emissions impact of fuels under different accounting assumptions, suggest an increasing need for policies that mitigate risk associated with renewable fuels. Such policies can be discussed and addressed in the Policy Development phase of this proceeding."* [3]

Thus, the FOG Technical Report analysis and seemingly the analysis underpinning the 2025 Climate Strategy hinge on Rhode Island's current GHG emissions accounting methodology in which "renewable fuels are considered carbon neutral." The FOG Technical Report summarizes the controversy surrounding this GHG accounting of alternative fuels, by stating:

> *"Many stakeholders in and outside of Rhode Island have cautioned the current treatment of biogenic emissions as carbon neutral, stating the complexity and uncertainty associated with lifecycle emissions. EPA acknowledges this complexity and notes that "technical, policy and legal contexts may change over time that could lead to revisiting the treatment of biogenic emissions necessary."* [4] *In addition, the Rhode Island Department of Environmental Management (RIDEM) in its latest inventory recognizes the ongoing international controversy surrounding GHG accounting for energy generated from biogenic sources and continues to collaborate with stakeholders on a more robust framework."* [5]

The assumption that alternative fuels, including both RNG and biodiesel, are GHG-neutral hinges on ignoring many of the lifecycle emissions from RNG. One of the key limitations of the RI GHG Inventory is that lifecycle emissions from RNG are not included. This is a gross simplification of a complex issue, as the EPA's Renewable Fuel Standard demonstrates (see Figure 1 below).[6] The EPA analyses examined the production of a number of different types of biofuels using various feedstocks. The results vary considerably, but the overwhelming majority of biofuels show some level of positive net GHG emissions, with some biofuels exceeding the lifecycle emissions of conventional fossil fuels like gasoline and diesel. Notably, in Figure 1 below, none of the biodiesel production pathways are estimated to have zero emissions, even using a lifecycle accounting methodology that is relatively friendly to biodiesel proponents.

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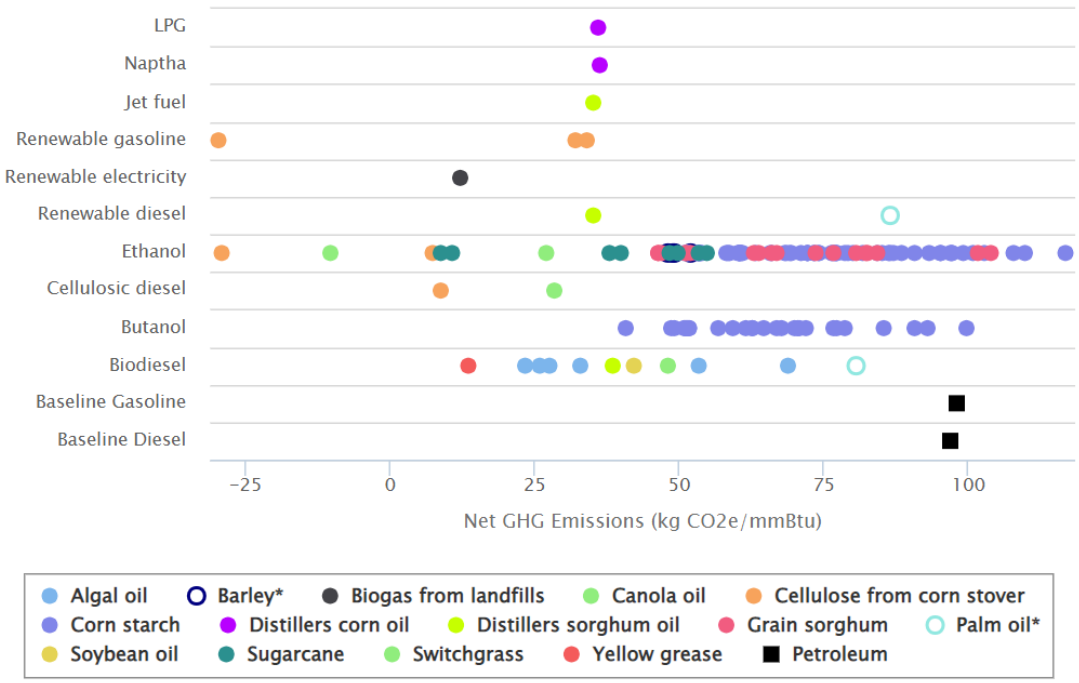
[3] E3 Report, page 105

[4] Footnote embedded in E3 Report quote: EPA's Treatment of Biogenic Carbon Dioxide ($CO_2$) Emissions from Stationary Sources that Use Forest Biomass for Energy Production https://www.epa.gov/sites/default/files/2018-04/documents/biomass_policy_statement_2018_04_23.pdf

[5] E3 Report, page 26

[6] EPA "Lifecycle Greenhouse Gas Results" https://www.epa.gov/fuels-registration-reporting-and-compliance-help/lifecycle-greenhouse-gas-results

Figure 1. EPA Renewable Fuel Standard Program Lifecycle GHG Emissions by Feedstock and Fuel Type[7]




**But the issue of how to consider building decarbonization strategies reliant on biofuels is not simply solved by implementing the "correct" lifecycle accounting methodology, making evaluation of these strategies an even thornier topic.** Dr. Emily Grubert, Associate Professor of Sustainable Energy Policy at the Keough School of Global Affairs at the University of Notre Dame is a globally renowned life cycle assessment (LCA) expert and fossil transition expert. Dr. Grubert was asked to present as part of Massachusetts' Office of Energy Transformation Expert Series on Renewable Fuels in the summer of 2025. The recording of Dr. Grubert's presentation is essential listening for any policy maker grappling with how to think about decarbonization strategies reliant on biofuels. In this presentation, Dr. Grubert brings up several key points, including the limitations of lifecycle accounting as a tool for informing biofuels policy.

**As described by Dr. Grubert, the emissions profile of renewable fuels under lifecycle accounting methodologies often relies on the concept of avoided emissions. Biofuels get credit for having fewer emissions than would have happened otherwise, which makes sense hypothetically, but this approach presumes a baseline of ongoing emissions that is likely not correct given state-level climate targets. As Dr. Grubert goes on to explain, energy policy makers don't use this type of accounting framework for any other fuel source (except biofuels).** For example, current frameworks don't attribute negative emissions to solar power

[7] EPA "Lifecycle Greenhouse Gas Results" https://www.epa.gov/fuels-registration-reporting-and-compliance-help/lifecycle-greenhouse-gas-results

because it led to avoidance of fossil power generation, and the same should hold true for biofuel lifecycle accounting which, is currently not the case. One question posed to Dr. Grubert in her presentation (see 24:50 timestamp of recording) can be used to inform Rhode Island policy regarding biofuels, and in particular biodiesel as a building decarbonization tool.

> Acadia Center's Question for Dr. Gubert: "*Do you think Massachusetts would benefit from an overarching framework that helps universalize life cycle accounting procedures across sectors of the economy and helps the state prioritize the highest value use of limited alternative fuel supplies across multiple sectors?"*
>
> Dr. Grubert Response: "*That's a great question, too. I'm a lifecycle assessment person and I get really nervous about people using Lifecycle Assessment specifically in policies to be honest. I teach LCA and one of the things I sort of drill into my students is this is a decision support tool, it's not a calculator, and because of that it's actually really challenging to use it in situations where it has to behave as a calculator with sort of legal ramifications to the numbers. Having it in a situation where you can use it deliberatively and kind of get people to understand what's going on and make decisions off of that…wonderful. I'm nervous about embedding it into a lot of policy frameworks where you have other ways of reaching the answer. I absolutely agree that an overarching framework that really talks about resource allocation to the highest and best use is really important. I'm not convinced that LCA is the way to do that. I think we have enough information about the different kinds of resources that are available to make those decisions without having to get really, really detailed on some of these LCA contexts. That was less true when the whole goal was to get to lower emissions, now that we're in a zero emissions framework though, I think the decision process is actually much easier, because we're not really debating "Well, how much coal should we keep using". I think at this point we have a bit of a challenge ahead of us that requires planning and allocation but maybe LCA is not the best way to do that."*

What are those "other ways of reaching the answer" that Dr. Grubert references in the excerpt above? Although she was not explicit in the excerpt above, other portions of her presentation and previous works discuss the lack of biofuel supply, associated cost, and questionable emissions benefits of biofuels being major obstacles to biofuel decarbonization strategies that make their use ill-suited for decarbonizing sectors of the economy that are relatively easy to electrify (e.g., building heating, passenger vehicle transportation). Due to uncertainty around biofuel supply, life cycle accounting and the tangible climate benefit of building decarbonization strategies reliant on biofuels, the Massachusetts Department of Public Utilities (DPU), in their landmark Order 20-80-B, aligned with Acadia Center's assessment of the level of risk associated with building decarbonization strategies reliant on alternative fuels. For example, the order stated:

> *"The Department rejects the recommendation to change its current gas supply procurement policy to support the addition of renewable natural gas ("RNG") to LDC supply portfolios due to concerns regarding the costs and availability of RNG as well as its uncertain status as zero-*

*emissions fuel."* [8]

*"In our view, more studies are required in this area to support the claim that RNG is a zero-emissions fuel. For example, a full life-cycle analysis that considers all of the emissions profiles and captures emissions gains and losses throughout the entire production process may be necessary to determine the total carbon intensity of RNG."* [9]

Although the Massachusetts DPU was focused on gaseous biofuels (e.g. RNG), the exact same concerns are applicable to decarbonization strategies reliant on liquid biofuels (e.g. biodiesel) like Rhode Island's Biodiesel Heating Oil Act. Similarly, in the Massachusetts Clean Heat Standard Draft Framework, gaseous biofuels (e.g., RNG) were recommended to be completely ineligible for the program and relatively strict limitations were placed on both the types of biodiesel eligible and the level of credit these fuels would generate under the program. For example, only "waste-based liquid biofuels" would receive full credit under the program and "other liquid biofuels eligible for the federal Renewable Fuel Standard would receive half credit through 2030 only." Although, in the view of Acadia Center, these limitations did not go far enough, they demonstrate the high level of skepticism at MassDEP that all forms of biodiesel should be credited as zero emissions in perpetuity. Acadia Center's comments on the Massachusetts Clean Heat Standard Framework can be found here and here; in those comments, the organization further details its concerns on the topic of eligibility for liquid biofuels in the Clean Heat Standard.

**This topic of the efficacy of alternative fuels in actually reducing net GHG emissions in the state of Rhode Island, and more specifically in the state's building sector, should be a central, overriding theme that is present across both the forthcoming FOG Policy Report and the 2025 Climate Strategy in the context of the Biodiesel Heating Oil Act. To date, as far as Acadia Center is aware, no analysis on the Biodiesel Heating Oil Act blending requirement has been performed to investigate the cost, technical feasibility, supply chain feasibility or real-world emissions benefit associated with the policy. The 2025 Climate Strategy offers a perfect forum to do that, but in its current form, Acadia Center does not see this type of analysis.**

**The degree of uncertainty surrounding the climate benefits of biofuels is so high, that the FOG Technical Report included a sensitivity analysis in the modeling titled, "Renewable fuels have no emissions benefit."[10]** The FOG Technical Report summarizes the results of this sensitivity analysis through the inclusion of Figure 2 (see below) and by stating, "Scenarios that rely on higher levels of electrification (e.g., High Electrification, Staged Electrification) would miss 2050 Act on Climate targets by 6%, while the Continued Use of Gas pathway would miss targets by 17%." Based on Figure 2 below, the Hybrid With Gas Backup Scenario would miss the economy-wide 2050 target by 9%.

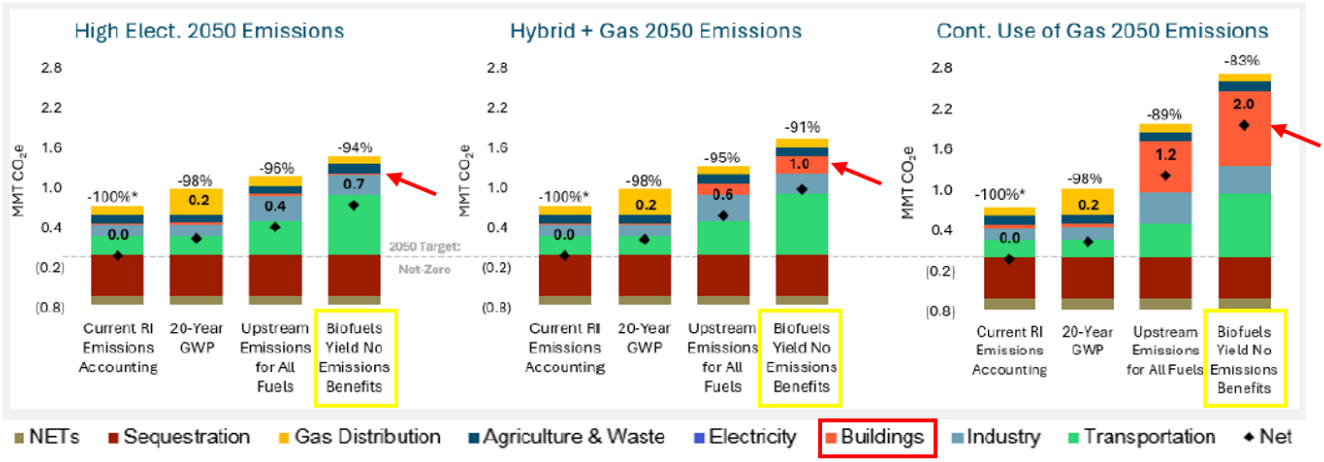
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[8] Massachusetts Department of Public Utilities 20-80-B, page 1
https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/18297602

[9] Massachusetts Department of Public Utilities 20-80-B, page 68
https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/18297602

[10] E3 Report, page 46

Figure 2. Remaining Emissions in 2050 Under Alternative Accounting Frameworks"
(Figure 17[11] from E3 Report With Highlights Added by Acadia Center)




However, the above comment and figure summarizing the degree to which various scenarios would miss the 2050 Act on Climate targets under the "zero emissions benefit from biofuels" sensitivity is focused on the degree to which the *overall RI economy* will miss the targets. Assuming Rhode Island at some point adopts subsector GHG emission reduction mandates for the building sector in line with the overall economy-wide mandate (e.g., net-zero emissions by 2050 translates to 95% reduction in building sector gross GHG emissions by 2050), the degree to which that Building Subsector target would be missed under scenarios that rely extensively on alternative fuels is even more amplified.

For example, as Table 1 below demonstrates, using data available in the FOG Technical Report[12], the Continued Use of Gas Scenario only reduces Building Sector emissions 53% by 2050 under the "zero emissions benefit from biofuels" sensitivity. Additionally, the Buildings Sector GHG emissions reduction obtained in the Hybrid With Gas Backup Scenario (90%) falls well short of the High Electrification scenario (99%). **In other words, the greater the reliance on alternative fuels as a strategy for decarbonizing the buildings sector – whether gaseous or liquid - the greater the odds that improvements to the state's current (flawed and over-simplified) GHG accounting structure for biofuels will result in Rhode Island falling short of the overarching Act on Climate 2050 target.**

[11] E3 Report, page 47

[12] Data on building sector emissions in 2050 under various scenarios utilizing the "renewable fuels have no emissions benefit" sensitivity analysis was obtained via direct measurement of Figure 17 in the E3 Report.

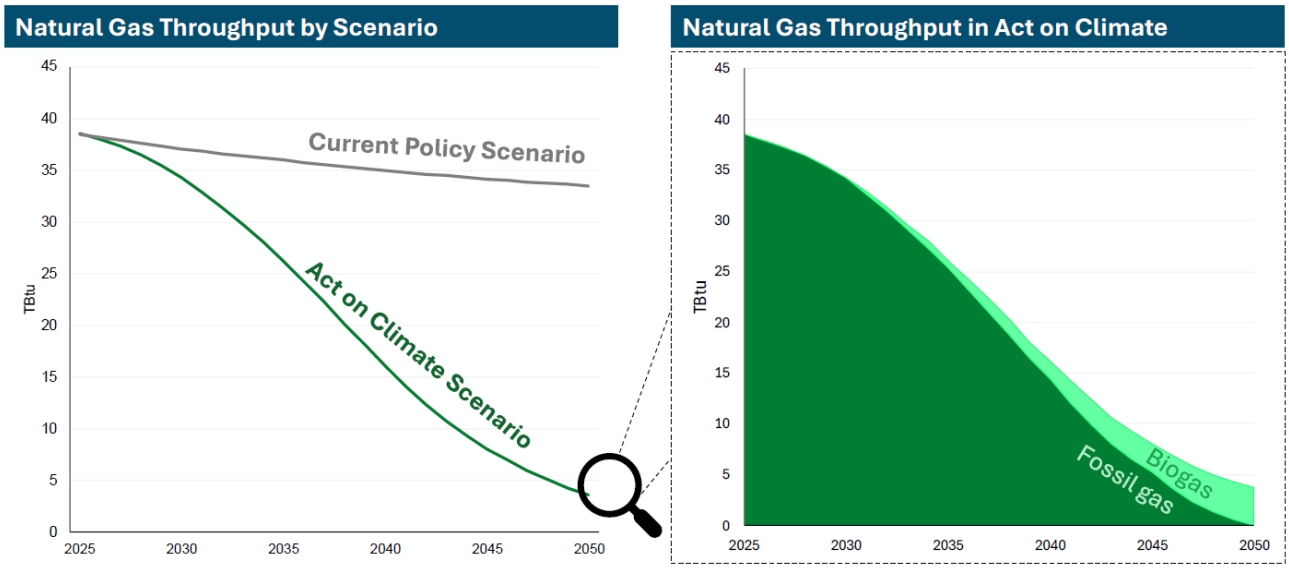
Table 1. Rhode Island 2020 vs. 2050 Percent Reduction in Building Sector GHG Emissions Under Three Modeled Scenarios Using E3's "Renewable fuels have no emissions benefit" Sensitivity Analysis

| Scenario | 2020 Building Sector Emissions (MMT CO2e) | 2050 Building Sector Emissions (MMT CO2e) | % Reduction Building Sector Emissions |
|---|---|---|---|
| Continued Use of Gas | 2.6 | 1.21 | -53% |
| Hybrid + Delivered Fuels | 2.6 | 0.40 | -85% |
| Hybrid + Gas | 2.6 | 0.27 | -90% |
| Alternative Heat Infrastructure | 2.6 | 0.16 | -94% |
| Staged Electrification | 2.6 | 0.08 | -97% |
| High Electrification | 2.6 | 0.03 | -99% |

## Alternative Fuels Appears to be A Core Decarbonization Strategy for Delivered Fuels but Not The Gas Distribution System, Highlighting the Inconsistent Approach to Biofuels as a Building Decarbonization Strategy

Although the FOG Policy Report has not been released, it was communicated to stakeholders that the assumptions in the 2025 Climate Strategy's Act on Climate Scenario are closely aligned with the PUC's overarching vision for gas system decarbonization. This overarching vision is succinctly summarized in Figure 3 below from slide 28 of the Pathways to Decarbonization presentation.

Figure 3. Natural Gas Throughput by Scenario: 2025-2050




Acadia Center will be providing detailed comments on the topic of gas system transition when the FOG Policy Report is released, but one item that jumps out in the context of the overarching 2025 Climate Strategy is the inconsistency between biodiesel/renewable diesel as a core decarbonization strategy for the state in the delivered fuels sector (e.g. 50% blend required by 2030 for all delivered heating oil in the state) vs. the relatively limited use of RNG as a gas distribution system decarbonization strategy. In the graphs above, RNG isn't even introduced into the gas system until 2031 and the peak volume of RNG being delivered through the system for any year (3.7 TBtu of RNG in 2049) only represents 9.5% of current natural gas demand in the state (39.1 TBtu). Although details are not provided on the underlying logic behind the decision to rely on RNG in the gas distribution system as a theoretical means of decarbonizing remaining gas system emissions, primarily in the 2040s, it does highlight the inconsistency with the widespread use of biodiesel as a supposed decarbonization tool deployed at scale (50% blend by 2030) for heating oil in the 2020s and 2030s. **In other words, it appears the PUC has significant reservations with widescale deployment of RNG as a decarbonization strategy for the gas system, with the primary decarbonization strategy being a reduction of pipeline gas (fossil or RNG) flowing through the system (91% decline in total throughput from 2022 to 2050), yet the state is simultaneously bullish on near-term deployment of biodiesel/renewable diesel at scale. This highlights an overarching inconsistency in biofuels as a decarbonization tool for the building sector that should be addressed in the 2025 Climate Strategy.**

## RES Compliance Tradeoffs: RECs vs. In-State Renewable Energy Deployment

The Current Policy Scenario estimates that electricity sector emissions in Rhode Island will decline 81% by 2030 relative to 2022 levels, largely as a result of state compliance with the Renewable Energy Standard (RES). Acadia Center understands the primary forum for determining the specific mechanisms by which the state will achieve RES compliance is taking place within PUC Docket No. 25-25-EL: Integrated Clean and Renewable Energy

Procurement Study. However, Acadia Center thinks the 2025 Climate Strategy could serve as a complimentary forum to analyze and discuss some of the big picture questions related to how the state envisions achieving RES compliance.

For example, the 2025 Climate Strategy lacks any specifics on the types of strategies that could be deployed to accelerate cost-effective achievement of the RES requirements. For example, could comprehensive siting and permitting reform at the state level help accelerate the rate of in-state utility-scale solar deployment and reduce reliance on Renewable Energy Certificates (RECs)? What steps can be taken to accelerate the deployment of both residential and commercial rooftop solar in Rhode Island? What are the comparative costs and benefits associated with an RES compliance strategy that is primarily reliant on the acquisition of RECs versus a strategy that is more focused on aggressive deployment on in-state renewable resources? These are all examples of questions that could have been explored in detail in the 2025 Climate Strategy, both qualitatively and quantitatively, but were not.

The topic of tradeoff associated with RES compliance via REC acquisition versus deployment of in-state generation seems like a perfect topic for in-depth quantitative analysis to better understand the near-term and long-term cost implications associated with the respective strategies. A RES compliance strategy reliant primarily on RECs presents significant risks at several levels. First, without corresponding deployment of in-state generation at scale, the 2025 Climate Strategy inherently relies on indefinite acquisition of RECs in 2033, 2050 and beyond with no cost savings benefits delivered to ratepayers. This is in contrast to a strategy focused on aggressive deployment of renewables which drive down RES compliance costs over time. Secondly, because RECs are a regional resource dependent on a regional market, a RES compliance strategy heavily reliant on RECs exposes the state to risk associated with policy decisions of other states outside the control of Rhode Island. The Summary makes reference to this dynamic, stating, "*The elimination of IRA investment tax credits makes new clean-energy projects more expensive to develop in Rhode Island while also tightening the regional supply of Renewable Energy Certificates (RECs), the tradable credits that represent one megawatt-hour of eligible renewable generation, which in turn drives up the cost of complying with the state's Renewable Energy Standard (RES)…*" However, there is no corresponding qualitative or quantitative analysis that grapples with the pros and cons of these two very different RES compliance pathways. Additionally, reducing electricity demand through current (and expanded) energy efficiency offerings at the state level will be critical to cost-effective compliance with the RES, a point that is not emphasized in the 2025 Climate Strategy materials provided to stakeholders to date.

## Concerns That Carbon Reduction Strategy Emissions Avoided Methodology Overstates Impact of New England Heat Pump Accelerator and Minimizes the Urgency of Enacting Complimentary Building Decarbonization Strategies

The Carbon Reduction Strategy presentation estimates that the New England Heat Pump Accelerator ("HP Accelerator") will reduce building sector GHG emissions by 160,000 MT $CO_2e$ in 2030, 380,000 MT $CO_2e$ in 2040 and 460,000 MT $CO_2e$ in 2050, with a cumulative emissions avoided impact over the 2026-2050 study period of

7,800,000 MT $CO_2e$. The one slide from the presentation providing details on the HP Accelerator mentions, "Modeled heat pump sales resulting from Accelerator program based on draft estimates from Northeast Energy Efficiency Partnership (NEEP)" but provides no further detail on the underlying assumptions or analysis that led to the emissions avoided estimate. Direct email exchange with the 2025 Climate Strategy consulting team revealed an underlying assumption that the HP Accelerator would result in the equivalent of 67,535 homes receiving heat pumps over the course of the grant (2026-2030), including both all-electric and hybrid heating systems. **US Census data indicates that there are 488,011 total housing units in the state of Rhode Island, implying that approximately 13.8% of all homes in Rhode Island would install an all-electric or hybrid-electric heating system over a five-year period as a result of the HP Accelerator, or put another way, approximately 2.8% of all homes per year in the state would install heat pumps from 2026-2030 as a result of the HP Accelerator. Without additional supporting documentation outlining assumptions underpinning these heat pump adoption levels, Acadia Center remains skeptical that the HP Accelerator alone is capable of driving this level of adoption.**

**The framing around the HP Accelerator strategy in the Carbon Reduction Strategy presentation – both in terms of level of assumed adoption levels and emissions avoided - runs the risk of making the HP Accelerator appear comparatively more impactful than other complimentary building decarbonization strategies that the state could pursue.** For example, the analysis presented estimates that the HP Accelerator is estimated to be 8x more impactful from a 2030 emissions reduction perspective (160,000 MT $CO_2e$ avoided in 2030) than "Maintaining and Adjusting Existing State Energy Efficiency Program Incentives" (20,000 MT $CO_2e$ avoided in 2030), with no provision of supporting evidence or underlying analysis to verify that claim. For context, the Rhode Island 3-year Energy Efficiency Plan estimated the projected lifetime emissions avoided by the plan at 1.39 MMT CO2e, or approximately 116,000 MT CO2e avoided in annualized 2030 terms, giving at least a rough sense of the scale of energy efficiency emissions impact in the state. This ties back to an earlier point made in these comments – the general lack of detailed assumptions shared with stakeholders around these Carbon Reduction Strategies makes it incredibly challenging to meaningfully comment on the substance of the proposal, whether it be the assumptions underpinning the Heat Pump Accelerator emissions avoided estimate or the assumptions underpinning the emissions avoided estimate associated with the State's energy efficiency program.

## Managing Uncertainty Around Advanced Clean Cars and Advanced Clean Trucks Implementation and the Need for State-Level Backup Pathways to Lock in Transportation Emissions Reductions

The 2025 Climate Strategy's heavy reliance on Advanced Clean Cars II (ACC II) and Advanced Clean Trucks (ACT) creates a material implementation risk that is not adequately addressed. While Rhode Island and other states are vigorously defending their authority to adopt these standards, recent federal actions to revoke or weaken the Clean Air Act waiver framework introduce real uncertainty around the timing, durability, and enforceability of these regulations. Even if the legal defense ultimately succeeds, delays of even a few years would significantly undermine near-term transportation emissions trajectories, given that fleet turnover is inherently slow. The 2025 Climate Strategy appropriately acknowledges federal policy instability in broad terms, but it does not sufficiently

grapple with the sector-specific consequences of potential ACC II/ACT disruption—particularly for meeting the Act on Climate's 2030 benchmarks, which leave little margin for error.

Given this uncertainty, the 2025 Climate Strategy should explicitly include a set of state-controlled "backup" transportation decarbonization pathways that can deliver most of the emissions reductions otherwise expected from ACC II and ACT if federal authority is delayed or weakened. These pathways already exist and could be modeled and scaled rapidly, including: (1) feebate or point-of-sale incentive structures that aggressively close the upfront EV cost gap without relying on EPA waiver or federal tax credits; (2) targeted policies focused on high-mileage and commercial drivers, where emissions benefits per vehicle are greatest; (3) scrappage and vehicle retirement programs that accelerate the removal of the highest-emitting vehicles from the fleet; and (4) substantially more ambitious vehicle-miles-traveled (VMT) reduction strategies through land-use reform, transit investment, pricing, and demand management. Importantly, these approaches are not substitutes for ACC II and ACT, but complementary risk-management tools that ensure Rhode Island can still meet its required emissions targets under the Act on Climate even if federal regulatory pathways are delayed, constrained, or partially unwound.

## Additional Risk from Federal Fuel Economy and GHG Standard

In addition to uncertainty surrounding ACC II and ACT, the 2025 Climate Strategy should recognize the parallel risk posed by potential weakening of federal fuel economy and greenhouse gas standards for conventional vehicles. Rollbacks or delayed strengthening of Corporate Average Fuel Economy (CAFE) and federal vehicle GHG standards would increase on-road emissions from the vast majority of vehicles that will continue to be internal combustion through at least the early 2030s. This creates a second, compounding vulnerability in the transportation decarbonization pathway that is largely outside of Rhode Island's control. Here again, state-level feebate policies offer a powerful hedge against federal backsliding by directly shifting consumer purchasing toward the cleanest available vehicles within each class, regardless of fuel type. Properly designed feebates can simultaneously discourage the sale of the most inefficient, high-emitting vehicles while accelerating EV adoption and efficiency improvements across the entire fleet, providing a durable, state-controlled emissions reduction tool that functions even if federal efficiency standards stagnate or weaken.

## Grid Constraints as a Structural Risk to the Vehicle Electrification Pathway

Even if vehicle supply, incentives, and standards remain on track, the 2025 Climate Strategy should acknowledge that grid capacity and interconnection constraints pose a growing, system-level risk to the transportation electrification pathway, for all vehicle types but particularly for medium- and heavy-duty fleets. Fleet depots serving trucks, buses, refuse haulers, and delivery vehicles often face multi-year delays and high costs for distribution and transmission upgrades, which can directly stall electrification regardless of vehicle availability or regulatory requirements. Without proactive mitigation, these bottlenecks threaten to become a binding constraint on ACT implementation and on broader fleet electrification goals. The most immediate, scalable, and cost-effective way to manage this risk is through aggressive promotion of load management and smart charging so that new electric load is shifted to off-peak hours, aligned with renewable generation, and optimized within

existing grid capacity wherever possible. State policy should therefore treat managed charging not as a marginal optimization, but as a core enabling infrastructure strategy that reduces total system costs, accelerates electrification timelines, and preserves flexibility as both vehicle demand and clean generation scale over the coming decade.

## Conclusion

By embracing courageous action and strategic risk mitigation, Rhode Island can confidently meet this moment and ensure the rapid realization of a clean energy future. Acadia Center urges the EC4 to disclose underlying modeling assumptions and embed greater urgency and accountability into the 2025 Climate Strategy. Acadia Center appreciates the opportunity to detail specific concerns and recommendations regarding carbon reduction strategies in the building, electricity, and transportation sectors. Acadia Center looks forward to supporting the EC4 and the McKee administration in pursuing multiple strategies for climate action and charting Rhode Island's path to a net zero future.

Sincerely,

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