June 12, 2023

Public Comment from the Center for EcoTechnology to the Rhode Island Department of Environmental Management
RE: Development of a Scope of Work for the 2025 Climate Action Strategy
Submitted by: Coryanne Mansell, coryanne.mansell@cetonline.org, Strategic Partnership Coordinator, Center for EcoTechnology, 01033

The Center for EcoTechnology (CET) is pleased to offer these comments regarding the Rhode Island Department of Environmental Management's (RI DEM) 2025 Climate Action Strategy.

CET helps people and businesses transition to a carbon-free future. Our track record as effective change agents stems from our unique approach: we meet people and businesses where they are, delivering solutions that achieve desired environmental goals and increase access, uptake, and equity while also saving money and improving comfort and health. CET works in the built environment, where we conduct projects and programming that foster commercial waste reduction and recycling, wasted food prevention and diversion, building material reuse, high performance green building design, and consulting on building electrification and energy efficiency. Our mission is to innovate, implement, and scale the environmental solutions that communities need to thrive.

CET has enjoyed a multi-year partnership with RI DEM and other state and federal agencies to implement effective waste diversion programs and jointly overcome barriers to recycling, reuse, and waste prevention in Rhode Island. There have been significant changes in the solid waste and energy industry over the past ten years, and we believe that this pace of change will continue and even accelerate in the coming decade. The following comments are provided for consideration.

Public Engagement

Throughout the development of the 2025 Climate Action Strategy, the EC4 would like to enlist the support of a consultant to help agency staff facilitate robust and ongoing engagement with the public.

1. What forms of public outreach and engagement should be conducted?

To conduct effective public outreach and engagement, various forms can be employed. In-person summits and meetings provide opportunities for face-to-face interactions and discussions. Virtual meetings allow for remote participation, in case participants are not able to travel. Additionally, written opportunities, such as feedback forms, surveys, or online platforms, enable individuals to provide input at their convenience. To ensure inclusivity, it is important to consider offering materials and interactions in multiple languages. Strategic partnerships with industry focus groups can also be established to engage specific stakeholders and gather targeted input. These diverse forms of outreach and engagement help to broaden participation and capture a wider range of perspectives.

2. How can we best support community organizations to engage in or help lead these processes?

To best support community organizations in public processes, consider establishing funding mechanisms like stipends or grants to allocate resources for engagement efforts. This financial support reduces the burden and allows organizations to dedicate more time and resources. Additionally, offer networking opportunities during the process to connect organizations with stakeholders, foster collaboration, and share best practices. This enhances their capacity to engage effectively and amplifies their impact.

3. What areas of public engagement and outreach should be led by the state, by the community, by the consultant, or in which areas would you recommend collaboration for optimal results?

To optimize results in public engagement and outreach, different entities can take the lead in specific areas while also collaborating. The state can lead virtual meetings, leveraging technology to facilitate broader participation and reach. Community-led in-person gatherings allow for local input and grassroots involvement, promoting inclusivity and representation. Consultants can take the lead in organizing and facilitating feedback forums, ensuring structured and focused discussions. Collaboration among these entities is recommended to achieve optimal results, combining expertise, resources, and perspectives for a comprehensive and balanced approach to public engagement.

4. Which groups should be included, and do you have suggestions for how to include them?

Example stakeholders include the Center for EcoTechnology, RI Schools Recycling Club, RI Food Policy Council, Nature Conservatory, Utility Companies in the state, and institutions such as University of Rhode Island.

5. What did you like about the stakeholder engagement process for the 2022 Update, or any other public engagement process? What would you like to see improved, and how?

6. How can we ensure that our public engagement process is inclusive and accessible to all?

To ensure that the public engagement process is inclusive and accessible to all, you can take the following steps. Firstly, initiate early communications to allow participants to schedule their involvement and accommodate their availability. This helps in promoting broader outreach and encouraging diverse participation. Secondly, provide information and materials in multiple languages, ensuring that language barriers are minimized. Share the recorded notes or summaries of in-person or virtual meetings to make the content accessible to those who couldn't attend or prefer to review the discussions later. Lastly, incorporate an opportunity for participants to ask questions and seek clarifications through a Q&A session, ensuring that their voices are heard, and their concerns addressed.

7. What public engagement methods would you recommend to elevate the voices, perspectives, and needs of low income and disadvantaged communities?

Public engagement methods can include hosting meetings in the communities of interest, collaborating with local community organizations to increase trust and facilitation, increasing language accessibility options, and conducting door-to-door outreach.

Scenario Building and Projections

The modeling of various greenhouse gas reduction scenarios is useful to show how certain programs, policies, investments, laws, and regulations can impact RI's emissions. Models can be used to determine which mitigation strategies the State should pursue.

1. What type of climate/emissions reductions modeling would you like to see conducted for the 2025 Climate Action Strategy?

2. What do you think was missing from the modeling included in the 2022 Update?

3. Do you have any models, or modeling approaches that you recommend and why?

4. What other modeling factors and considerations should be considered for the 2025 Climate Action Strategy?

Analyses

The following five analyses are being proposed for inclusion in the 2025 Climate Action Strategy: a benefits analysis, a low-income and disadvantaged communities' analysis, a workforce planning analysis, a macroeconomic analysis, and a policy analysis.

5. Do you have any suggestions or considerations for any of the five analyses listed above?

6. The benefits analysis will include an examination of co-pollutants (including, NOx, SO_2, PM2.5, VOCs, air toxics). What other types of benefits would you like to see included in this analysis?
It may be valuable to include analysis of co-benefits of climate action. Some examples could include the social benefits of addressing food insecurity when surplus food is captured for donation rather than thrown in the trash. Addressing food waste is a top climate solution according to Drawdown, and the state has existing policies and supportive stakeholders working to support the implementation of those policy goals and such an analysis will cast a broader net of interested stakeholders. In energy efficiency, improved indoor air quality and health are often important co-benefits that could be included in climate action analysis.

7. Would you like to see any additional analyses conducted, and if so, why?
An economic impact study or assessment would be valuable. We know that climate action is good for the environment and the economy and formal studies help validate investments from public and private sectors. For example, in Massachusetts, an economic impact study was conducted a few year after that state's Food Waste Ban was implemented. It showed over $175M of associated economic activity and approximately $5M in state tax revenue.

8. Are there any specific stakeholder groups you would like to see engaged in any of the analyses?

Preparation of the Final Report

The EC4 will need to deliver a final report to the Governor, General Assembly and EPA (to meet the requirements of the Comprehensive Climate Action Plan referred to above) by late 2025. This final report will be the culmination of all the modeling, analysis, and engagement undertaken in 2024 and 2025 and will help set the state on a path towards meeting the emissions mandates outlined in the Act on Climate.

9. Do you have any suggestions for how to best design and craft the 2025 Climate Action Strategy's final report?

RI DEM's Climate Action strategy should concretely outline targets for greenhouse gas emissions reductions and waste diversion and include food waste goals as part of the broader targets. In addition to including specific goals, the plans should include recommendations for emissions reductions and diversion opportunities for waste reduction across material streams (i.e., construction and demolition, food waste, etc.). In addition, the strategy should task specific departments with actionable next steps for moving forward policies around waste reduction and energy efficiency, including funding targets. Focusing on organics, activities can include residential and business waste reduction, raising public awareness, increasing donation, or supporting the expansion of compost-collection infrastructure.

10. How would you like to see the results of the 2025 Climate Action Strategy shared with the public and various groups, beyond just the release of the final report?

Representative attendance at applicable meetings across the state (i.e., RI Food Policy Council, Interagency Food & Nutrition Policy Advisory Council, Zero Waste Providence, etc.).

General Question

11. Is there anything missing from the outline of tasks that you wish to see added to the scope of work?

1 The 2019 greenhouse gas inventory shows that statewide net GHG emissions had decreased 19.6% from the 1990 baseline, meeting the Act on Climate's 2020 mandate of a 10% reduction compared to 1990.
2 R.I. Gen. Laws § 42-6.2-2

Rhode Island Energy's
Response to
Request for Information
To Support the Development of a Scope of Work for
The *2025 Climate Action Strategy*

Response submitted by:

Rhode Island Energy
280 Melrose Street
Providence, RI, 02907

Questions or requests for further discussion should be directed to:

Carrie A. Gill, Ph.D. | Head of Electric Regulatory Strategy
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Rhode Island Energy is the local team of 1,100 employees responsible for delivering electricity and gas to nearly all of Rhode Islanders. We appreciate the thoughtful approach of the State Administration in issuing this Request for Information (RFI) prior to executing the scope of work necessary to develop the *2025 Climate Action Strategy*. Rhode Island Energy's mission is to deliver safe, affordable, reliable, sustainable energy to its customers. As such, in responding to this RFI, we considered our role as energy experts who are representing our customers.

We understand that the *2025 Climate Action Strategy* will be the State's comprehensive strategy to identify programs, policies, and pathways so Rhode Island can achieve the requirements of the 2021 Act on Climate. We understand that the *2025 Climate Action Strategy* will include:

- A greenhouse gas emissions inventory developed by the Rhode Island Department of Environmental Management (RIDEM)
- Near-term (2030-2040) and long-term (2050) greenhouse gas emissions projections under various policy scenarios including business as usual and full policy implementation
- Development of economy-wide near-term and long-term greenhouse gas emissions reduction targets, which may include sector-specific limits
- Quantified greenhouse gas emissions reduction measures that will meet the reduction targets and address the main emissions sectors, inclusive of agency roles, implementation schedules and milestones, costs, funding sources, and metrics for measuring progress
- A benefits analysis that quantifies estimates of co-pollutant reductions (PM2.5, NOx, SO2, VOCs, air toxics) and other benefits associated with greenhouse gas emissions reduction measures
- A benefits analysis that focuses on co-pollutant emissions reductions and other benefits (health, economic) within low-income and disadvantaged communities
- A process for just transition that will redress past environmental and public health inequities, and where interests of those at risk of pollution, displacement, energy burden, and cost can influence the plan
- Workforce planning analysis that identifies workforce shortages and support for workforce needs, including creation of family-sustaining clean energy jobs and development of programs that directly recruit, train, and retain underrepresented populations in those jobs

We understand that many of these components of the *2025 Climate Action Strategy* stem directly from the 2021 Act on Climate. We offer the following general comments on these components with the aim of focusing their objectives:

- We appreciate seeing both the contemporaneous greenhouse gas emissions inventory and the projections of greenhouse gas emissions under business-as-usual and scenarios aligned with various levels of policy implementation. Please reach out if there is data we can provide that will strengthen these emissions inventories or projections.
- We recognize the value of setting sector-specific greenhouse gas limits to aid in policy planning and evaluation; however, we caution against potential economic inefficiencies that may arise if such sector-specific limits are considered to be mandatory.
- We appreciate understanding the State's prioritization framework for policy development and implementation: "address the main emissions sectors". Could you please clarify whether 'sectors' refers to electricity, transportation, and thermal sectors; residential, commercial, and industrial sectors; the categories summarized in RIDEM's annual greenhouse gas emissions inventory; or something else? Does this reference to 'main emissions sectors' indicate the State will prioritize action for the sectors that contribute the most amount of emissions, or something else?

Generally, we want to be clear about the infrastructure investments required to reliably support a decarbonized economy, and we encourage the State to contemplate how such investments can be funded in the *2025 Climate Action Strategy*. The State's *Heating Sector Transformation* report and *The Road to 100% Renewable Electricity by 2030 in Rhode Island* report provide data-driven estimates of how decarbonization may impact our energy systems. *The Road to 100%* finds a near doubling of our current electricity consumption, even if we omit incremental load from electrified heating. Furthermore, market signals from state policies, like the 2022 Renewable Energy Standard, are likely to continue to drive local renewable energy development. On top of everything, our increasing reliance on the electric grid increases the importance of reliability. In the past, an outage meant folks couldn't turn on lights or watch TV. Now an outage means that folks can't work from home, can't commute in a vehicle with an empty battery, and can't heat or cool their homes. In effect, outages have evolved from nuisances to potential public health and economic crises. If we are to provide a strong, reliable backbone for our decarbonized economy, then we must face the fact that we will need to make significant strategic investments in our electric system, and we can't just build bigger at any cost – rather, we have to build smarter and use our electric grid more efficiently through targeted investments. We implore the State to consider how we can fund these critical investments alongside advancing other policy priorities within the *2025 Climate Action Strategy*.

We recognize the breadth and complexity of developing the *2025 Climate Action Strategy* and we are eager to be a productive partner throughout the development process and beyond. We offer responses to the RFI questions below, as well as general comments on ways in which we may work together. Thank you for your consideration of our perspective and for the work you're doing!

Public Engagement

1. What forms of public outreach and engagement should be conducted?

   We appreciate the opportunity to engage remotely in real time, in writing, and via face-to-face discussions. For us, the hardest part about engagement is scheduling, so we would kindly request that opportunities for engagement be scheduled early so we can be sure to be available to participate.

Similarly, we appreciate flexible options for engagement (e.g. remote sessions) to allow for maximum participation and to mitigate some scheduling constraints.

3. What areas of public engagement and outreach should be led by the state, by the community, by the consultant, or in which areas would you recommend collaboration for optimal results?

We are not the policymakers, but we are the trusted energy experts. Our objective is to make sure the policymakers have clear, trusted, accurate, and transparent information they need to make the best decisions for Rhode Islanders. We are happy to further explore how we could collaborate in engagement.

Reaching our climate and clean energy mandates requires a technical understanding of opportunities and challenges. As the people who operate the electric grid every day, we offer our support in educating any stakeholders and members of the public about the nuances of our energy systems to aid in development of practical climate action strategies.

4. Which groups should be included, and do you have suggestions for how to include them?

Since meeting climate mandates likely have significant implications for electric and gas networks, the *2025 Climate Action Strategy* must work for all electric and gas customers. Effective public engagement will include voices from diverse residential customers (not limited to market-rate and income-eligible customer classes, but including customers who rely on electricity and gas for medical needs, for working from home, for transportation, for heating, etc.), business customers (not limited to small business, commercial, and industrial, but including non-profits, community-based organizations, and organizations with diverse uses of electricity and gas for business operations), and special use customers (including, for example, customers with streetlighting accounts, distributed energy resource developers, customers who require a secondary feeder to ensure reliability, etc.).

In addition to representing these customers, we can also play the supporting role of connecting customers with opportunities to engage, such as through amplification of outreach materials.

Scenario Building and Projections

8. What type of climate/emissions reductions modeling would you like to see conducted for the *2025 Climate Action Strategy*?

We would like to see consistency with the priority actions as described in the 2022 Update and alignment with findings from previous policy reports (for example, Heating Sector Transformation) and ongoing discussions (for example, the Future of Gas docket). Encouraging this consistency and alignment will help us continue to progress these policy ideas by building on past findings, and will send less volatile signals to markets, workforce, industry, etc. Furthermore, this consistency and alignment will demonstrate the degree to which we can view policy priorities and policy findings as likely to be realized, and therefore integral to include within our forecasting and planning.

11. What other modeling factors and considerations should be considered for the *2025 Climate Action Strategy*?

Any modeling approach has inherent uncertainty which helps us understand the *range* of effects we might reasonably anticipate from any given policy intervention or action. We encourage being transparent about this uncertainty by proactively providing estimates of uncertainty and discussing how findings should be interpreted in light of this uncertainty.

From our perspective, understanding the range of effects and the probabilities with which these effects may occur will help us better incorporate such policy interventions or actions into our forecasting and planning.

Analyses

The following five analyses are being proposed for inclusion in the *2025 Climate Action Strategy*: a benefits analysis, a low-income and disadvantaged communities analysis, a workforce planning analysis, a macroeconomic analysis, and a policy analysis.

15. Are there any specific stakeholder groups you would like to see engaged in any of the analyses?

In support of our objective to include diverse customer groups, we offer the following (not comprehensive) list of stakeholder groups who may wish to add their perspectives to this discussion:

- Rhode Island Manufacturers Association
- Quonset Business Park businesses
- Rhode Island Hospital Association
- Colleges and Universities
- Center for Justice
- Age Friendly Rhode Island (Rhode Island College)
- Chambers of Commerce
- Rhode Island Builders Association
- Rhode Island League of Cities and Towns
- Rhode Island Department of Housing

Preparation of the Final Report

16. Do you have any suggestions for how to best design and craft the *2025 Climate Action Strategy*'s final report?

We would appreciate a report that includes both a succinct summary of actions, with a clear discussion of the precursors that would need to occur for those actions to be realized, as well as a technical appendix that describes the modeling and analyses.

17. How would you like to see the results of the *2025 Climate Action Strategy* shared with the public and various groups, beyond just the release of the final report?

We would like to see at least one round of preliminary results to be able to offer feedback.

June 26, 2023

To: DEM Director Terry Gray; OER Acting Commissioner Chris Kearns

CC: Members of the Executive Climate Change Coordinating Council; Members of the Executive Climate Change Coordinating Council Advisory Board

RE: Request for Information To Support the Development of a Scope of Work for The 2025 Climate Action Strategy

Dear Director Gray and Acting Commissioner Kearns,

Thank you for the opportunity to provide comment on the development of a scope of work for the 2025 Climate Action Strategy ("2025 Strategy") below.

Climate Jobs Rhode Island is a coalition of more than 30 environmental organizations, labor unions, and community organizations committed to working together to make Rhode Island a national leader in the development of a resilient 21st century economy that expands access to family-sustaining clean energy jobs for impacted and frontline communities through a Just Transition.

Our members range from those who represent frontline workers who build, repair, and maintain Rhode Island's infrastructure, like the RI Building and Construction Trades Council; community groups like Fuerza Laboral and the Childhood Lead Action Project; service organizations like the United Way of RI; to environmental organizations like The Nature Conservancy, the Audubon Society of RI, and Clean Water Action.

The process in developing the 2025 Strategy is as important as the outcome. For the final report to adequately reflect the needs and conditions of the State of Rhode Island, the process by which community members and

stakeholders are engaged is critical to get right. Frontline community members and workers should drive the agenda and be adequately equipped to do so. Impacted communities should inform the final scope of modeling, analyses, scenario-building, and projections. This undertaking is a rare opportunity to build long-term capacity within communities to set the terms of resilience, strength, and success in decarbonizing Rhode Island's economy.

We encourage the EC4 and all state government bodies to take the requirements of the Act on Climate seriously, take appropriate action, and to do so through a Just Transition lens. These efforts require an all-hands-on-deck collaboration of stakeholders across every community and sector. We remain a resource and dedicated partner to assist in these efforts.

Very sincerely,

Patrick Crowley
Co-chair
Climate Jobs Rhode Island

Priscilla De La Cruz
Co-chair
Climate Jobs Rhode Island

Public Engagement

(RFI questions 1-7)

It is imperative to prioritize, and center solutions developed by people living in frontline, marginalized communities and workers. Frontline communities have borne the brunt of the impacts of climate change and been confronted with decades of disinvestment. Workers face potential risks and impacts within the workplace and in their career trajectories, both from climate change and decarbonization efforts. As a result, they have important knowledge, experiences, and community-based solutions that are necessary to understand and reflect when creating the 2025 Strategy.

We recommend establishing an advisory committee composed of frontline community members and frontline workers to "consult the consultants" or the plan's co-authors during every stage of the development of the 2025

Climate Action Strategy. Members should be compensated for their time and participation. The EC4 and its consultants should be required to seek direction from this advisory committee and incorporate their input throughout the 2025 Strategy and the stages of its development.

To enhance this work, emphasis should be placed on building long-term capacity for low-income, frontline communities to engage the State on broader, deeper decarbonization efforts. Long-term capacity building should involve mutual training and education on relevant topics and should be tied to resources for frontline communities and workers to be able to lead on decarbonization efforts and create transformative solutions. Again, capacity-building should involve a compensation structure or arrangement for the participation and time of community members.

Other types of engagement to all audiences should be done utilizing place-based strategies through collaborative, inclusive charette-style workshops and town hall-style forums that facilitate mutual learning among stakeholders. A hyper-local example of the successful utilization of this approach is the process that led to the Providence Climate Justice Plan. One other local example specifically centered on mutual learning approaches that have facilitated successful collaboration and a shared understanding of relevant topics is Climate Jobs RI's "Lunch and Learns," where leaders in the labor and environmental movements have shared knowledge, experience, and resources from their respective areas - for example: labor unions once gave a presentation describing how various apprenticeship models work, along with the meaning behind prevailing wage, while environmental groups presented about how Rhode Island's Renewable Energy Standard works. We've found this "Lunch and Learn" model to be a highly effective tool for stakeholders with various backgrounds in our coalition to find common understanding on complex but very intersectional issues.

Accommodations should be made for community members throughout the development of the 2025 Strategy to enhance a shared understanding of the topics and issues, while supporting highly effective engagement. To support different styles of learning, some types of accommodations should include written (both digital and printed) resources and short videos. These types of "at-home" resources could include hyperlinks or QR codes to webpages for additional information, or for audiences to provide input.

Agendas for town hall-style forums, community meetings, workshops, and programs should be designed with input from community members. Hybrid in-person and virtual options should be made available to participants of meetings. Childcare options, food, and multilingual interpretation should be made available. Meeting locations should be ADA-compliant and accessible by transit. Materials for meetings should be provided a few

days in advance, and members of the public should have the opportunity to view recordings of meetings and provide feedback on meeting topics following their occurrence.

An easily navigable web portal storing all relevant materials, resources, and FAQs while allowing public feedback on topics for the 2025 Strategy should be made available.

Stakeholders

Climate change intersects across all communities, disciplines, and sectors. The 2025 Strategy needs to be developed with the broadest good-faith subset possible. However, as mentioned previously, frontline communities and workers need to lead the work. This includes a collaboration between organizations comprising, representing, and serving low-income and marginalized communities, immigrants, and refugees; faith-based organizations; service-oriented organizations; consumer and ratepayer advocacy organizations; the Narragansett Tribe; labor organizations and rank-and-file workers, especially those who will be most positively and negatively impacted by decarbonization efforts.

Additionally, as a major energy user that represents an industry regularly seeing negative revenue each fiscal year, the Hospital Association of RI needs to be engaged as a stakeholder.

Collaboration

Collaboration will be necessary across all stakeholder groups. Our comments provided on this topic focus on specific intergovernmental collaboration.

Because deep decarbonization efforts will be heavily dependent on the capacity of cities and towns, municipal leaders and staff will need to be consulted with throughout the development of the 2025 Strategy. This consultation should involve feedback on their ability to implement decarbonization strategies, their ability to seek funding support for these strategies, as well as their understanding of decarbonization policies and pathways, particularly involving planning and zoning.

The Rhode Island Infrastructure Bank should be consulted on potential lending and grantmaking programs to support decarbonization efforts. The Department of Housing should be consulted based on their involvement of new construction and renovation of housing units, and the Department of Labor and Training should be consulted based on their capacity to forecast potential wage growth and losses through decarbonization efforts.

Other government bodies with which to collaborate in the development of the 2025 Strategy should include the RI Public Utilities Commission, based on their Future of Gas docket, as well as the Green Energy Workforce Advisory Committee, which will be established this year under the Governor's Workforce Board.

Scenario-building and Projections

(RFI questions 8-11)

We strongly encourage the EC4 and consultants to include social cost of carbon modeling, along with healthcare costs in projections for all three sectors outlined below:

Thermal

Particular attention should be paid to how certain scenarios structure the phase-out of gas and oil infrastructure for hard-to-decarbonize buildings. For example, hospitals will need a long off-ramp to weatherize their buildings and replace thermal systems - how certain scenarios front-load or back-load those phaseouts along with potential cost implications should be considered. Additionally, rental housing still presents a significant decarbonization challenge, and scenario modeling should include consideration of this sector's size and potential pathways that move landlords to update their rental properties and replace gas and oil heating systems.

Transportation

Scenario-building and projections for transportation should include potential outcomes by fully funding the state's Transit Master Plan, along with significantly deploying EV charging infrastructure along with pathways that move Rhode Islanders toward full electric vehicle adoption. In short, modeling this sector should involve at least two scenarios that significantly reduce vehicle miles traveled **and** significant electrification of the transportation sector.

Electricity

While Rhode Island is on a set path to a 100% Renewable Energy Standard by 2033, projections should carefully consider the increased electricity usage through electrification of the transportation and thermal sectors. These projections will inform the very important and necessary policy implications of modernizing the electric grid to be able to handle added loads associated with greater demand, additional supply from interconnected renewable energy resources, and battery storage. Additionally, this kind of transition will require the inclusion of smart grid technology.

Analyses

(RFI questions 12-15)

Analyses should carefully examine the best possible ways to structure certain incentives and economic assistance for low-income and marginalized communities. Tax credits and certain financing structures to date have proven inadequate in supporting decarbonization efforts for people experiencing poverty. The 2025 Strategy needs to provide recommendations as to the amount of resources in economic assistance needed to fully decarbonize households experiencing poverty.

All five analyses outlined within the RFI will need to consider the types of needed jobs and careers needed to meet decarbonization pathways laid out in scenarios and projections. The Rhode Island Department of Labor and Training is well-equipped and positioned to provide support on this front.

Not every job category is treated equally by employers, and therefore the types of projects examined in certain scenario modeling will also impact the kinds of wages earned, job benefits, as well as whether there is a likelihood that apprentices would be included on infrastructure projects. Economic analyses, low-income communities analyses, and workforce analyses need to consider the kinds of decarbonization projects utilized in each projection. For example, different projects come with various requisite skill-sets and, in effect, different wages. Larger-scale projects involve higher-wage jobs and have the capacity to include workers undergoing apprenticeship programs. Ensuring the inclusion of apprentices on projects could be a pathway out of poverty if implemented appropriately. Therefore, it is important that the needed skills and trades for specific projects be identified in scenario modeling in order to develop these analyses.

Usually, the greater the scale of a project, the more likely it is to include better wages, benefits, and include apprentices. Policies on decarbonization projects that include apprenticeship utilization requirements, prevailing wage requirements, community benefit agreements, as well as labor peace or project labor agreements encourage participation by good-faith employers and ensure a resilient, equitable, and local economy. Rhode Island cannot risk causing decarbonization efforts to lead our communities on a race to the bottom.

Memorandum

Date: June 15th, 2023

To: DEM Director Terry Gray; Chair, Executive Climate Change Coordinating Council (EC4)
Acting Commissioner Chris Kearns, Office of Energy Resources; Vice Chair, EC4

From: Act on Climate Implementers
Amanda Barker, Green Energy Consumers Alliance
Emily Koo, Acadia Center
Darrèll Brown, Conservation Law Foundation
Andrew Morley, RI Farmers for Climate Action
Timmons Roberts, Climate and Development Lab, Brown University
Peter Trafton, Environment Council of RI
Barbara Watts, RI Citizens Climate Lobby

Re: RFI to Support the Development of a Scope of Work for the 2025 Climate Action Strategy

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Dear Director Gray and Acting Commissioner Kearns,

Thank you for the opportunity to provide comments to support the development of a scope of work for the 2025 Climate Action Strategy. We are very grateful for the ability to provide feedback as the scope of work is developed and appreciate the willingness of the Administration to ask these questions in advance of the RFP. As noted in our previous memoranda to the EC4 in July 2021, January, April, July and November 2022, our objective is to help the Administration equitably implement the Act on Climate. These and future comments will serve as a continuation of that pledge.

We also appreciate the many ongoing opportunities for stakeholder input and the detailed project-management approach adopted by the EC4. The increased frequency of in-person, hybrid, and remote EC4 activities is critical to gathering as much public input as possible during this critical process. We also appreciate the increased focus on finding near-term, foundational, sector-by-sector actions the state must take to achieve greenhouse gas emissions reductions in line with the 2030 requirements of the Act on Climate.

As we look ahead to the 2025 Climate Action Strategy, we want to reiterate that the state can and must implement common sense policies before the development of the 2025 report. The Act on Climate requires urgent action to reduce emissions 45% by 2030 and net-zero by 2050. If we wait until the report is finalized to start implementing policies, the state will be in jeopardy of missing those targets. The 2022 Greenhouse Gas reduction plan laid out priority actions for the state, now we must work to implement those actions and more while simultaneously improving the plan in the 2025 Climate Action Strategy.

Public Engagement

The scope of public outreach and engagement should focus on building long-term capacity for those communities statewide most impacted by climate change. Rather than positioning engagement as a subcontract to a larger consultant, we encourage the EC4 to support a parallel process of resourcing community and environmental justice organizations to engage in the State's ongoing deep decarbonization planning efforts, ranging from education and training to providing feedback on development of the 2025 climate strategy.

Agencies should regularly engage in robust stakeholder processes to seek public input, in advance of all decisions – especially those that impact environmental justice communities. Advisory entities or task forces that are created should ensure community engagement, support communication across agencies and stakeholders, and include representation from environmental justice populations. The State's 2025 Climate Action Strategy can serve as a means to build capacity among community and environmental justice organizations to engage in and help lead deep decarbonization planning efforts.

Who are the stakeholders?

Stakeholders for the 2025 Climate Action Strategy shall include community and environmental justice organizations, local planning boards, local sustainability and energy committees, municipal sustainability managers, educational institutions, tribal serving organizations and tribal communities, low-income utility consumer advocates, frontline workers, transit riders, as well as businesses, industry representatives, scientists, and other experts. The breadth of community and environmental justice organizations may include residents of low-income and environmental justice communities, populations in frontline communities, the young and elderly, artists, and shared language, cultural and geographic communities. We particularly encourage the centering of the interests of those groups and individuals at risk of pollution, displacement, energy burden and cost.

Inclusive and accessible engagement methods

- Compensate community groups and advisors for education and training in order to participate in and lead on the development of programs, policies and pathways for RI to decrease GHG emissions.
- Shift decision-making power and resources so that the interests of those at risk of pollution, displacement, energy burden, and cost can not only influence, but guide, the development of the 2025 Climate Action Strategy Plan.
- Engagement and outreach activities planned in partnership with trusted community and environmental justice groups. Community networks play a critical role in climate action planning and development and the involvement of more supporters from our communities will only improve outcomes.
- Provide information about the state climate plan, its objectives, and potential strategies through public meetings, workshops, educational campaigns, and online platforms and surveys. When applicable for the community, provide educational materials in various languages to close language barriers and ensure access to information.
    a. EC4 and relevant agencies can use its websites and social media accounts, as well as email, to make it easier for stakeholders to get and find information.

    b. Beyond electronic communication methods, EC4 can be proactive in engaging stakeholders, i.e., partnering with community organizations as well as municipalities with environmental justice populations to help solicit input.
    c. Proactive outreach to community groups, tribal leaders/members, environmental justice groups, so that advance notice is received, especially for those that may require public meeting/hearing accommodations.
    d. Engaging with media that provide non-English services (i.e., physical and/or web-based platforms, radio stations) can assist outreach and engagement with non-English speaking communities.
    e. Making data and information accessible to stakeholders and affected populations is essential for meaningful engagement. In addition, technical information should be presented in a way that stakeholders outside of the energy and environmental science fields can understand.
- Accommodations for workshops or public meetings:
    a. Provision of food and childcare
    b. Simultaneous language translation (if applicable for the community)
    c. Hybrid and in-person formats, held in different regions of the state, along with virtual participation options
    d. Held in the evening/outside of standard work hours
    e. Allow for public input and discussion, to ask questions, and receive non-confrontational answers
    f. Accept public comments after public meetings and workshops
    g. In-person meetings should be accessible via public transportation and held in ADA-accessible locations
    h. Avoid holding public meetings in locations that may cause concerns for some residents (e.g., police station, federal building, etc.)
- Publish the minutes of EC4 meetings, as well as EC4 STAB and EC4 AB meetings, to the EC4 website as well as in submission to the Secretary of State.
- Allow the priorities of impacted communities to inform the development of Scenario Building Projections and Analyses.
- Reflect programs, policies and pathways for RI to decrease GHG emissions back to community and environmental justice organizations and allow refinement of Final Report and associated deliverables.

Best Practices

To best support community organizations, we invite the EC4 to explore the following best practices in order to elevate the voices, perspectives, and needs of low income and disadvantaged communities:

- Providence's Climate Justice Plan and the Spectrum of Community Engagement to Ownership (page 32 of the Climate Justice Plan).

- Inclusive science communication (ISC), a "global movement to shift the traditional paradigm of science communication toward an approach that centers inclusion, equity, and intersectionality".

- YESTEM's equity compass, a framework to reflect on your current practice and develop equitable practice.

Scenario Building and Projections

The 2025 Strategy offers an opportunity for Rhode Island to address some of the key limitations of the state's greenhouse gas inventory. These core limitations of the GHG inventory have the potential to severely impact the results of the scenario analysis being undertaken in the 2025 Strategy and the resulting policy recommendations stemming from that scenario analysis. The below list is not exhaustive but highlights some key concerns.

Modeling Timeframe – 20 Year GWP

It is important that the modeling shows how policies would affect GHG emissions by 2030 and the years through 2050. Something to watch out for are policies that look good through 2030 but bad through 2050 (i.e., switching from oil to gas or upgrading gas heating systems). Therefore, we recommend:

a. Looking at the 20 Year Global Warming Potential (GWP) rather than 100 Year Global Warming Potential, particularly for methane. See page 14 of this SEI/Brown CDL study.
b. Looking at what it would take to reach 50% by 2030. It's important to "overbook" to anticipate some difficulties along the way by planning for more emissions reductions than are formally required, since implementation inevitably involves slippage.

Other Modeling Considerations

General

The modeling must be broken down by sector to assess the emissions reductions potential and identify the most effective strategies within each sector. For example, the transportation sector modeling should analyze the greenhouse gas emissions that come from electrifying vehicles vs. reducing vehicle miles traveled.

In addition, each action should spell out in detail how much emissions reductions it will result in. There should be a literature search section indicating what other states have modeled with respect to their climate plans (i.e. Massachusetts Clean Energy and Climate Plan for 2025 and 2030).

We would also like to see modeling done at the smallest geographic scale possible to evaluate energy supply and demand distinctions, as well as impacts to demographic populations to achieve an accurate representation and understanding of the challenges and advantages expected during this decarbonization process.

"Consumption-based" vs. "Production-based Methodology

While the 2022 Update acknowledged the potential impacts on emissions accounting in Rhode Island from electing to use a "consumption-based" methodology when accounting for emissions from the electric sector, the State should also have included a discussion about what the emissions accounting would look like if a "production-based" methodology was utilized. The choice of methodology has emissions implications, as well as critical justice and equity considerations which the Act on Climate

requires the state to consider as it plots its course to net zero emissions by 2050. This issue is discussed on pages 15-16 of the SEI/Brown CDL study here. ***Smart Charging and Demand Response***

It is important to model smart charging and demand response in coordination with the modeling results that Rhode Island Energy is using in their Advanced Metering Functionality and Grid Modernization dockets on EV adoption, smart charging, and opt-in/opt-out rates on Time Varying Rates (TVR). For example, what's the difference in GHG emissions reductions from a 20% TVR adoption versus 60%?

Methane Leaks from Gas Distribution System

Rhode Island's GHG Inventory currently severely underestimates the level of methane leaks from the gas distribution system. Sensitivity analysis surrounding the high degree of uncertainty in the level of methane leaks both from the gas distribution system and behind the meter gas leaks must be integrated in the 2025 Strategy scenario modeling. A long-term study by Harvard scientists released in 2021 found six times more methane leaking into the air around Boston than reported in the Massachusetts Inventory, which uses a similar approach to gas distribution methane leak accounting as the Rhode Island Inventory.[1] The study also observed no changes in the level of methane emissions in the Boston area over a period of 8 years despite significant efforts over that time period to slow the rate of methane leaks in the gas system. Another 2021 study measured methane leakage around Boston and estimated total supply chain losses of 3.3 to 4.7% for natural gas consumed in urban areas, which significantly increases the climate impacts of natural gas as compared to existing US EPA estimates.

A similar disconnect exists in Rhode Island between the levels of unaccounted for gas in the distribution system and estimated methane main and service leaks captured in the Rhode Island Inventory. For example, in 2020, unaccounted for gas as reported by the state's gas utility was 5.1x higher than estimated methane leaks from main and service leaks according to the EPA methodology employed in the state's GHG inventory. The methane leak reduction benefit of replacing cast iron and unprotected steel mains remains unclear.

Detailed comments from Acadia Center, in the context of the Massachusetts Future of Gas proceeding, on this topic can be found here on page 7. The SEI/Brown CDL study discusses this at length on p. 15.

GHG Accounting for Biofuels

The Rhode Island GHG Inventory currently does not consider lifecycle emissions from biofuels. To date, this has not been a primary concern since biofuels represent such a small fraction of total energy consumption in the state. However, the importance of this accounting issue will continue to grow, particularly as decarbonization scenarios that rely heavily on biofuels are proposed. Ignoring lifecycle emissions from biofuels is inadequate for considering the true climate implications of scenarios and resulting policy recommendations that rely heavily on biofuels. Rhode Island needs to investigate which lifecycle approaches to biofuels GHG accounting are most appropriate in the context of the 2025 Strategy scenario modeling. Accurate counterfactual assumptions are critical when accounting for the lifecycle emissions of biofuels. The baseline assumption for biofuels lifecycle analysis should be that biogas produced from sources like landfills and wastewater treatment plants is converted to CO_2 on site

[1] Sargent et al., 2021. Proceedings of the National Academy of Sciences 118 (44) e2105804118 https://www.pnas.org/doi/10.1073/pnas.2105804118

(e.g., in the form of a 99% efficient flare or via combustion to produce heat/power), as opposed to the baseline assumption that the biogas is simply vented into the atmosphere.

Detailed comments from Acadia Center, in the context of the Massachusetts Future of Gas proceeding, on this topic can be found here on pages 7-10. Comments in the Brown University Climate and Development Lab study with the Stockholm Environment Institute can be found on page 15 here.

"Fair Share" Biofuels Analysis

On both a national and regional scale, biomass resources necessary for producing biofuels are extremely limited. For this reason, both the country and individual states must think strategically about how to utilize biofuels in the sectors of the economy that are most challenging to electrify. According to analysis conducted by E3 in the Future of Gas proceeding in Massachusetts, the northeast has about ¼ as much biomass per capita available for biofuel production as compared to the national average.

Ensuring that biofuels are used responsibly across states requires a "fair share" analysis of the amount of biomass feedstocks that each state can use without actively making it more difficult for other states and the country to reach their decarbonization targets. Fair share analysis of biomass resources in the 2025 Strategy should be based on the concentration of hard-to-electrify industries (e.g., high-heat industrial, aviation, maritime, chemical production, etc.) in each state relative to other states in the country.

Detailed comments from Acadia Center, in the context of the Massachusetts Future of Gas proceeding, on this topic can be found here on pages 10-12.

The Role of Biomass and Biofuels in Achieving Net Zero

Most net zero pathways analysis have some level of gross emission that must be "netted out" to achieve the overarching net zero target. Biomass presents one possible pathway for netting out these emissions. However, simultaneously, using biomass to produce biofuels limits the potential of biomass to serve as a "tool" for sequestering CO_2 and "netting out" the remaining 5%, 10%, or 15% of gross emissions. The 2025 Strategy should think carefully about the tradeoffs associated with using limited biomass feedstocks to produce fuels versus using those same limited biomass feedstocks to achieve negative emissions that may be critical for achieving net zero emissions in 2050 in Rhode Island.

Detailed comments from Acadia Center, in the context of the Massachusetts Future of Gas proceeding, on this topic can be found here on pages 17-18.

Analyses

Macroeconomic Analysis

The Massachusetts Decarbonization Roadmap Study found that pathways that invested in local energy resources, including renewable electricity generation and energy efficiency, created more jobs and demonstrated greater economic benefits by keeping money local than the pathways more reliant on imported energy. For example, the "All Options" pathway from the Roadmap (which emphasized deep electrification and broad renewable electricity buildout) had 17% higher economic "output" (the broadest measure of economic activity) in Massachusetts per dollar invested than the "Pipeline Gas" pathway (which relied heavily on imported alternative fuels). For this reason, it's essential that

macroeconomic analysis be performed in the 2025 Strategy, particularly in the context of comparing pathways that rely more or less heavily on imported biofuels, hydrogen, and fossil fuels.

Detailed comments from Acadia Center, in the context of the Massachusetts Future of Gas proceeding, on this topic can be found here on pages 15-16.

Low-income and Disadvantaged Communities' Analysis

Social equity and justice must be promoted as we transition to a decarbonized economy. The 2025 Strategy must plan to assess the distributional impacts of the transition and ensure investment in marginalized communities. Incentives and innovative financing for income-eligible people, regardless of creditworthiness, must be considered to make clean technology accessible and affordable to all.

Workforce Planning Analysis

A workforce planning analysis should require diverse hiring and workforce development across all sectors to achieve quality jobs: contracts should advance women-, people of color-, and veteran-owned businesses and incentivize domestic and local quality job creation. Funding should be directed toward programs that directly recruit, train, and retain those people that are underrepresented in the workforce (women, people of color, veterans, formerly incarcerated people, people living with disabilities). Workforce planning programs should also include training for workers needing to learn new skillsets to support a just transition away from fossil fuels to clean energy.

Additionally, we encourage analysts to consider future procurements for clean energy projects to require prevailing wages. There is a risk that future procurements for clean energy projects will set the stage for a race to the bottom on job quality, along with community and local economic development. As an example, this could look like one-off jobs with substandard wages & benefits, and workplace safety hazards.

We also encourage analysts to consider infrastructure projects that include a share of apprentices on the project, who are participating in non-provisional registered apprenticeship programs. This is the best way to ensure that workforce training programs ensure pathways to family-sustaining careers in clean energy, while diversifying the workforce and maintaining opportunities for communities who have faced disinvestment and borne the brunt of climate change impacts. We must avoid the risk that workforce training creates training to nowhere.

Benefits Analysis

The benefits analysis must capture a range of positive outcomes from reducing carbon emissions and decarbonizing, such as:

- Climate Change Mitigation: Quantify the avoided or reduced emissions of carbon dioxide and other greenhouse gases, along with the associated environmental and economic benefits. This includes estimating the potential for avoiding the impacts of climate change on Rhode Island, such as extreme weather events, sea-level rise, and disruptions to ecosystems.
- Energy Savings: Estimate the energy savings and cost reductions associated with decarbonizing. For example, lifecycle cost savings must be factored in compared to the up-front cost of building efficient buildings.

- Job Creation and Economic Growth: Identify how the deployment of renewable energy and electrification will create employment opportunities in Rhode Island.

The analysis must also include benefits that flow from reducing co-pollutants, such as:

- The value from increased labor productivity, due to a healthier workforce
- The value of stronger academic achievement, due to healthier students and reduced absenteeism
- The value of lower healthcare costs from decreased asthma and respiratory health issues

The analysis should also capture 'avoided' benefits, such as:

- Avoided number of premature deaths
- Avoided number of hospital/ER visits
- Avoided number of asthma cases

Additionally, if the benefits analysis includes a review of co-pollutants, it would be necessary for agencies to expand air monitoring networks, actively analyze air monitoring data to fully account for health impacts/co-benefits of proposed climate policies and programs, over the course of time, to understand the long-term health and air quality impacts on our communities.

Preparation of the Final Report

In crafting the 2025 Climate Action Strategy final report, we suggest that the 2025 Climate Action Strategy spell out in detail and with as much granularity how much GHG emissions will be reduced by each action. The report should establish sector sub-limits. It should further identify interactions among actions as well as identify bandwidths of uncertainty. It should assess specific policies and programs, such as a Building Performance Standard, Clean Heating Standard, gas bans, carbon pricing, and grid modernization (Time Variable Rates, demand response, etc.). The report should clearly identify the agency in charge of implementing each policy, staffing and funding requirements of each policy, as well as forwarding-thinking timelines for implementation (i.e., RIDEM rulemaking initiated by Spring 2024). We suggest a Gantt chart showing policy development through implementation with clear indications of when GHG reductions will kick in.

Furthermore, all stakeholders and the public shall be allowed meaningful time to review and comment on the final report. The ongoing engagement of community and environmental justice organizations shall continue through and beyond the preparation of the final report. The programs, policies and pathways for RI to decrease GHG emissions shall be reflected back to community and environmental justice organizations, with allowance for refinement of the Final Report and associated deliverables. In this way, the interests of those at risk of pollution, displacement, energy burden, and cost can not only influence, but guide, the development of the 2025 Climate Action Strategy Plan. Reflecting back the results of the 2025 Climate Action Strategy with the public and various groups may include:

- A webinar going over the key actions in the report, how much GHG reductions will result from those actions, and how the state plans to implement them.
    - A webinar deck and recording posted online following the presentation, and available in other languages.

- A non-technical summary of the final report (using plain language and providing descriptions of anticipated impacts) to educate stakeholders about issues that may be relevant to them and their community.
- Compensating artists, storytellers, community groups and advisors to share and communicate – through a variety of mediums and platforms – the pathways for RI to decrease GHG emissions.

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Ecogy Energy

449 Thames St #210

Newport, RI 02840

June 15, 2023

RE: 2025 Climate Action Strategy - Request for Information

Dear Executive Climate Change Coordinating Council (EC4),

Ecogy Energy, based in Newport, RI and founded in 2010, is an experienced developer, financier, and owner-operator of distributed generation projects across the U.S. and Caribbean.

Ecogy's focus and niche is on the <1 MW arena, particularly on systems sited on rooftops, parking lots, and brownfields. Ecogy believes that with sound planning, proper development, and fair incentives for these types of projects, the State, its residents, and the clean energy industry as a whole will ultimately be more successful. In the Renewable Energy Growth Program ("REG Program"), Ecogy has 9 medium-sized rooftop projects that are operational in Rhode Island ("RI") and 15+ other projects that are in various stages throughout the development process such as interconnection, permitting, and construction. Ecogy's experience across the District of Columbia and 12 states including Massachusetts, Connecticut, and New York gives us a particular perspective to evaluate and comment on State's 2025 Climate Action Strategy.

Ecogy firmly believes that by focusing on projects constructed in and on the built environment, the development community can preserve precious and limited natural resources while directing the benefits of local solar to small businesses, property owners, nonprofits, low-income individuals, and other organizations that need them most.

These benefits, including new revenue streams through host lease payments and discounted electricity will in turn allow such local organizations to improve their operations serving the Ocean State, spur local economic development through the creation of solar, mechanical, civil, and roofing jobs, and expand municipal tax bases all while bringing RI closer to the goal of 100% renewable electricity by 2033 and other climate action strategies.

Please accept the comments below as Ecogy Energy's response with regard to the Request for Information To Support the Development of a Scope of Work for The 2025 Climate Action Strategy. We thank you in advance for your consideration of our comments and for continuing Rhode Island's leadership in creating the policies aimed at public policy goals, including encouraging optimally sited solar PV systems on rooftops, parking lots, and brownfields – projects closer to load.

Ecogy understands that Climate action requires both lowering GHG emissions and preparing for the impacts of climate change for deep decarbonization.

Public Engagement

1. What forms of public outreach and engagement should be conducted?
2. How can we best support community organizations to engage in or help lead these processes?

In order to decarbonize Rhode Island's electric sector, EC4 should encourage quantifiable and substantial community engagement such as encouraging community benefit agreements in the development community and engaging communities to compile letters of support for all planning regarding decarbonization and the 2025 Climate Action Strategy.[1]

3. What areas of public engagement and outreach should be led by the state, by the community, by the consultant, or in which areas would you recommend collaboration for optimal results?

All towns, cities, and municipalities should publish a Request for Proposal ("RFP") or Request for Information ("RFI") aimed at procuring on-site or off-site solar electricity. A RFP or RFI is a cost-effective mechanism to save money through the installation of on-site or community-based renewable energy technology. Towns, cities, and municipalities can either receive discounted clean energy from on-site generation through a Power Purchase Agreement ("PPA") or monetize unused space and create new, long-term income by hosting community solar. Specialists, such as Ecogy, finance, develop, install and operate all systems at no upfront or ongoing cost to the town, city, or municipality - enabling local residents and businesses to subscribe to the solar array and receive guaranteed discounts on electricity.

> *RHODE ISLAND 2022 CLIMATE UPDATE*
>
> *"While our climate mandates entail specific greenhouse gas emissions reductions, the 2021 Act on Climate also discusses the need for strategies regarding climate justice, community resilience, and improving public health. These objectives cannot be represented by a single value of* $MMTCO_2e$*, so we cannot lose sight of the importance of non-quantitative metrics and lived experience. While this chapter discusses technical accounting methodology for estimating our greenhouse gas emissions, we should also continue to provide opportunities to lift up voices from communities across Rhode Island to share their experiences and trust their expertise on priority actions and success (or failure) of our climate strategies."*

State and local governments should hold solar development and other alternative resource information sessions, collaborating with the community, consultants, and the development community. For example, a local town could organize a solar development information session to learn about the benefits and process in which developers such as Ecogy could give a presentation in partnership with organizations. It is critical that low-to-moderate income communities and

[1] U.S. Department of Energy. Community Benefit Agreement Toolki https://www.energy.gov/diversity/community-benefit-agreement-cba-toolkit

disadvantaged communities be a part of the climate action implementation process. In addition, efforts should be made by the state to ensure that the Narragansett Indian Tribe of Rhode Island is included in these conversations and in the development of this program. As indigenous and sovereign peoples of the region, it is crucial to include their council in these conversations to ensure equitable representation, respect for their ancestral lands, and the preservation of their traditional knowledge in sustainable energy development.

4. Which groups should be included, and do you have suggestions for how to include them?

Engaging Legislators and Passing the Right Policy Now to Support Distributed Generation

Legislators are key stakeholders in our ability to meet climate goals and should be significantly involved in the development and implementation of a 2025 Climate Action Strategy. The policies that we pass today will be needed for deployment of clean technologies that will improve the world for the generations of today and tomorrow. Such policies should include robust Distributed Generation ("DG") program funding and carve outs for solar projects on rooftops, parking lots, and brownfields to optimize previously developed project sites including former mine sites, former retail, commercial or industrial sites, parking lots, landfills or other brownfields.

Beneficial projects ranked by attributes should have priority in any incentive programs to ensure equitable access to the clean energy transition. In a recent analysis and stakeholder session by the Rhode Island Office of Energy Resources ("OER") in partnership with Sustainable Energy Advantage, LLC ("SEA") to evaluate Rhode Island's Distributed Generation policies, it was "supportive of modeling an expansion of in-state Distributed Generation (DG) programs to contribute towards meeting the Act on Climate electric sector goals" which would lead to "local economic benefits to Rhode Island from in-state DG deployment, and greater control over the deployment of DG vs. out-of-state Renewable Energy Credit ("REC") purchases."[2]

For the Alternative REG Program analysis, project siting on core forest were assumed to be restricted while offering siting adders for preferred sites in order to consider land use challenges solar can present. "In Alternative REG cases, offtaker and location-based compensation rate adders are assumed to be offered to project types that, with the adder, have a demonstrated benefit-cost ratio (under the Rhode Island Test developed in Docket 4600) greater than or equal to 1.0."[3] A project is considered cost-effective when the BCR is 1.0 or greater, therefore the states should adopt preferential adders for state incentive programs such as the REG program to support CDG, rooftop solar, and parking lot solar canopies.

Overarching observations included that "the incremental cost of preferred siting and community solar offtake increases revenue requirements, but can be largely (if not fully) offset by taking advantage of ITC bonuses for certain projects (e.g., for brownfield siting or low-income benefits). However, the premium for Community Remote Distributed Generation (CRDG) projects under the REG program is currently limited by statute to 15% relative to a comparable

[2] Evaluation of Rhode Island Distributed Generation Policies
https://energy.ri.gov/resources/major-initiatives/evaluation-rhode-island-distributed-generation-policies
[3] Evaluation of Rhode Island Distributed Generation Policies Stakeholder Workshop #5: DRAFT Benefit-Cost Analysis Results May 5, 2023 Sustainable Energy Advantage, LLC, on Behalf of the Rhode Island Office of Energy Resources

non-CRDG project, which would require a change to the Renewable Energy Growth Act for projects to benefit low-income customers and take advantage of related federal tax credits." Assumed increases in interconnection costs for resources over 1 MW largely offset expected non-interconnection capital and operating cost declines, therefore, supporting small to moderate scale projects are critical to deploying cost-effective renewables as fast as possible. Interconnection is already being pushed out further and becoming more costly, so bringing the possibility of larger project sizes into the study may have been harmful, especially with the current political climate in Rhode Island regarding deforestation due to solar. Understanding that a diversity of project types and sizes are critical to meeting climate goals, the state must acknowledge that in addition to local permitting hurdles, 10-20 MW projects take 3-5 years to build, which results in climate goals not being attained rapidly.

A Hedge Against Volatile Fossil Fuels

> *"The Cost of Renewable Energy Spreadsheet Tool (CREST) results demonstrate that project revenue requirements can be significantly reduced by providing fixed compensation for value streams (as opposed to variable compensation offered in current VNM/NM programs) via reductions in financing costs"*[4]

In 2021, Rhode Island produced 87% of its power from natural gas, the highest percentage of any state.[5] The majority of the state's remaining net generation was produced by biomass, wind, and solar energy sources. According to EnergySage, the average electric rates in Rhode Island cost 29 ¢/kilowatt-hour (kWh).[6] On March 13, 2023, the Rhode Island Public Utilities Commission (PUC) approved the following with regard to the Renewable Energy Growth (REG) 2023 Program Year (PY) in Docket 22-39-REG at its Open Meeting.

[4] Evaluation of Rhode Island Distributed Generation Policies Stakeholder Workshop #5: DRAFT Benefit-Cost Analysis Results May 5, 2023 Sustainable Energy Advantage, LLC, on Behalf of the Rhode Island Office of Energy Resources
[5] "U.S. Energy Information Administration - EIA - Independent Statistics and Analysis." EIA, www.eia.gov/state/analysis.php?sid=RI#:~:text=In%202021%2C%20Rhode%20Island%20generated,%2C%20wind%2C%20and%20biomass%20resources . Accessed 11 May 2023.
[6] "Electricity Cost in Rhode Island: 2023 Electric Rates." EnergySage, www.energysage.com/local-data/electricity-cost/ri/. Accessed 11 May 2023.

Renewable Energy Class	Ceiling Price (¢/kWh)	
	Including Post-Tariff Revenue	Excluding Post-Tariff Revenue
Small Solar I	27.75	31.25
Small Solar II	26.15	26.65
Medium Solar (>25-250 kW)	25.65	25.65
Commercial Solar I (>250-500 kW)	22.05	22.35
Commercial Solar II (>500-1000 kW)	19.05	19.55
Large Solar	14.35	15.45
Wind	19.15	19.95
Anaerobic Digestion	19.05	19.05
Small Scale Hydropower	31.95	32.45
Community Remote – Commercial Solar I (>250-500 kW)	25.15	25.15
Community Remote – Commercial Solar II (>500-1000 kW)	21.91	22.35
Community Remote – Large Solar	16.50	17.77
Community Remote – Wind	21.15	21.75

Figure 1 Renewable Energy Growth (REG) 2023 Program Year (PY) Ceiling Prices. All REG ceiling prices including Post-Tariff Revenue were less than the average electric rates in Rhode Island which cost 29¢/kilowatt-hour (kWh) except Small Scale Hydropower. All REG ceiling prices excluding Post-Tariff Revenue were less than the average electric rates in Rhode Island which cost 29 ¢/kilowatt-hour (kWh) except Small Solar I.

In Rhode Island, costlier fossil fuels are the cause of predicted increases in power rates, making Rhode Island-produced renewable energy an even better alternative. Rhode Islanders continue to see electric rate increases year after year due to market factors and the lingering effects of the COVID-19 pandemic, including businesses that supply jobs to the state being "hit with 'deplorable' surprise electric bills."[7] **Increasing the deployment of renewables in all categories and system types should be seen as a solution to the volatility of fossil fuel markets, resulting in long-term economic and environmental solutions when locking in a feed-in-tariff rate for 20-years.**

[7] Sherman, Eli, and Sarah Guernelli. "More Ri Businesses Hit with 'deplorable' Surprise Electric Bills." WPRI.Com, 9 May 2023, www.wpri.com/target-12/more-ri-businesses-report-getting-deplorable-surprise-electric-bills/?utm_source=ActiveCampaign&utm_medium=email&utm_content=PBN%2BMorning%2BCall&utm_campaign=Call_2023_0509.

Rhode Island renewable energy deployment has become stagnant, without creating a market for rooftops, parking lot canopies, brownfield, and other adders – while neighboring states are leaders in equitable and responsible solar deployment.

Table 1. Examples of Canopy Adders in New York and Massachusetts

State Program	Canopy Adder Incentives
Solar Massachusetts Renewable Target (SMART) Program[8]	$0.06 ($/kWh)
NY-Sun Con Edison Parking Canopy[9]	$0.20 ($/W)[10]

Table 2. New Jersey Successor Solar Incentive (SuSI) Program - ADI Incentives (NJ-SREC-IIs) Per Market Segment. Small Net-Metered Non-Residential projects located on Rooftop, Carport, Canopy and Floating Solar projects are given higher values compared to other categories.

Market Segments	System Size MW (dc)	Incentive Values ($/SREC-II)	*Public Entities (($20 Adder)
Small Net-Metered Non-Residential located on Rooftop, Carport, Canopy and Floating Solar	Projects smaller than 1 MW (dc)	$110	$130

*"Public Entity" is defined as a customer that is a State entity, school district, county, county agency, county authority, municipality, municipal agency, municipal authority, New Jersey public college, or New Jersey public university.

Opportunity Missed: Warwick Public School

Ecogy Energy won a Request for Proposal ("RFP") with Warwick Public School in 2021 to develop quality and cost effective solar photovoltaic (PV) systems at four sites with Warwick Public Schools' Rhode Island properties – because of rooftop conditions and structural concerns, projects transitioned to canopy/carport systems. Ecogy proposed carport projects throughout the schools properties, then the carport adder was taken away in the REG program, therefore we could not move forward with building. The program change took away the ability for Ecogy to support the school in pursuing clean energy solutions, reducing their greenhouse gas (GHG) impacts, and realizing the maximum potential of the land it owns.

[8] Solar Massachusetts Renewable Target (SMART) Program Eversource Capacity Block, Base Compensation Rate, and Compensation Rate Adder Guideline Tranche 1
[9] Con Edison Parking Canopy and Rooftop Canopy Incentive Adder Rates for Blocks 6-10
[10] Previously $0.30/W

Solar Ready Buildings

Although commercial and industrial ("C&I") buildings are a massive source of carbon emissions, C&I solar growth has lagged behind residential solar and utility scale solar. The centralized generation, transmission, and distributed systems of the American electricity grid cannot be retrofitted quickly enough to meet the need of C&I electrification. Ecogy sees this lag as an opportunity. Because C&I buildings generally have high energy usages, they're ideal contenders for rooftop solar. The energy produced can be consumed on site, reducing reliance on the outdated electric grid, speeding up development and suppressing costs. Ecogy is determined to continue using cutting-edge tech to develop distributed energy resources as efficiently as possible, combating climate change and securing our energy supply.

In order for the development community to be successful, we need policies that create solar-ready buildings. C&I rooftops around Rhode Island are failing structural reports and need support in making them structurally sound, especially with the new International Building Code for 2021. All new construction rooftops, especially for large users of energy such as warehouses and large retail spaces, should be built as solar-ready buildings.

Local Permitting Constraints

The State of Rhode Island should be more involved with the permitting of commercial, industrial, and utility scale solar systems at the local level to educate towns on the best solar code to support state goals. Understanding DG Capacity is only valuable if we can deploy technologies rapidly, receive community support, and work in a collaborative environment. The state is in desperate need for permitting guidance and the current process has led to less activity within the state. It should not be left solely to the developer to educate each town that a company encounters on how to plan for distributed generation projects.

Education from the state is critical to deploying distributed energy resources and should include both a guide specific to the state and outreach to local governments and/ or authorities having jurisdictions (AHJ). Developing a tool for understanding the solar permitting and inspecting process supports efforts to implement a unified permitting process for small to moderate commercial and industrial scale solar PV systems. Standardizing the permitting and inspecting process across the State of Rhode Island will reduce costs for municipalities and solar customers, create local jobs, and advance Rhode Island's clean energy goals. Ecogy is eager to participate in the process and would like to see collaboration from other state departments, solar contractors, and other stakeholders.

Case Study: Sandywoods Solar and the Tiverton Solar Ordinance

The State of Rhode Island, Town of Tiverton Solar Ordinance - ARTICLE XXIV. SOLAR ENERGY SYSTEMS Section 5

Ecogy wants to build a ~250 kW DC ground-mounted solar project in the Town of Tiverton. The project is in partnership with Rhode Island Renewable Energy Growth Program and Sandywoods Land Trust, an affordable housing community focused on sustainability initiatives. Shortly after entering into a Lease Agreement, Tiverton enacted a moratorium on all new solar project applications. The solar ordinance required Ecogy to maintain a standstill for over two years as we waited for a new Solar Ordinance to be passed from November 2018 to November 2022.[11] The Planning Board's solar ordinance was in response to concerns about how much farmland and woodland would be lost to commercial solar installations.[12] At present, the new and amended solar code imposes much stricter guidelines that would limit the size of the installations in residential areas because it does not address how Residential Zoned properties should be approached – it instead leaves out any mention and has resulted in the project being rejected.

Ecogy understands the towns development concerns, however, towns are being too restrictive with no clarity on what the path forward is for developers. After Tiverton had the opportunity to receive public feedback for 2-years with example projects in their town that would be considered position solar siting, they did not take public feedback and developer feedback into consideration. Developers that have waited years for the moratorium to be lifted, now have projects that do not fit into the zone's code - even though the projects pose no threat to farm or forestland. The state should facilitate meaningful conservation and work to educate communities and towns and build trust regarding permitting and preferred sites. If no steps are taken for resolution in this town and others throughout the state, permitting constraints will leave landowners and the state with wasted and unused REG capacity.

Retiring RECs in Rhode Island

Currently the REG program includes the retiring Renewable Energy Credits ("RECs") within the tariff price of the REG bid. Ecogy strongly believes that an accurate portrayal of renewable energy generation is hurt by allowing out-of-state REC production. The reason being is because interjurisdictional REC creation leads to the potential of double counting of RECs, which is a broad issue found in many renewable energy markets. A simple restriction on RECs only being able to be generated in-state would limit double counting and allow for Rhode Island to control and take advantage of all economic development created by the goal of 100% renewable electricity by 2030. States that have not been strict have run into issues time and time again (see example Vermont and the double-counting with MA, Hydro-Quebec and the Maine RPS), D.C. and cross-border RECs from Maryland, Pennsylvania Act 40, etc.). Further, by allowing REC's produced out-of-state or to retire outside of Rhode Island the State is reducing the economic and environmental benefits of the path to 100% by 2030. Allowing out-of-state REC purchases will lead to relying on other state's distributed generation and limits in-state production. A good example is Delaware where Ecogy was very active until out-of-state REC purchases were

[11] Tiverton, Rhode Island - Code of Ordinances APPENDIX A - ZONING - ARTICLE XXIV. - SOLAR ENERGY SYSTEMS
[12] Pobzeznik, Marcia. "Limits on Solar Eyed in Ordinance Revision." Newport Daily News, 27 Sept. 2019, www.newportri.com/story/news/local/2019/09/27/limits-on-solar-eyed-in-tiverton-ordinance-revision/2677031007/.

allowed and the market was quickly gutted and where now the state's largest utility Delmarva purchasing over 25% of their renewable energy from four neighboring states contributing to over $7.8 million in spending to out-of-state solar generators and purchasing only 7% of RECs from in-state solar projects[3].

5. What did you like about the stakeholder engagement process for the 2022 Update, or any other public engagement process? What would you like to see improved, and how?

The 2025 Climate Action Strategy should include a strategy to incentivize workforce development opportunities in collaboration with trade unions.

Key Studies from the 2022 UPDATE: Avoided GHG Emissions

In Synapse's Solar Siting Study for Rhode Island ("Synapse Study"), parking lot projects were found to have the potential to offset 1.19 million metric tons of CO_2, (the second most of all project types).[13] This is equivalent to the carbon sequestered in one year by 1.5 million acres of U.S. forests or 19.6 million seedlings over 10 years, or the CO_2 emissions of 137,318 homes in one year.

Rhode Island's 100% Renewable by 2030 presentation dictated that the two greatest priorities in the coming decade are emissions reductions and local economic impact. The Synapse study dictates that carport projects address environmental concerns that are left unattended-to by larger commercial projects, however, the costs associated with constructing these projects point to the need for more well-modeled incentives. If RI is examining this study with environmentally-focused intentions, the GHG emissions alone avoided should be a glaring benefit of these carport projects to the goals of the Ocean State on the road to 100% renewable electricity by 2030.

Parking lot projects are stated to be the most expensive to construct at $5.09/watt-DC (medium-cost assumption but with a small sample size), and are receiving an adder that does not cover this significantly higher expense than other projects. The high cost comes with greater local economic impact as carport projects require much more of a variety of a workforce than traditional projects in that foundation, drilling, structure erection are all unique to these types of projects. The high cost is worrisome but can be overcome with better aligned incentives that accurately reflect the on-average higher cost and lower production factor for these projects. Our canopy project, which won the first certificate in 2020 within the PILOT program for a 6 cent per kWh adder, is unfortunately not enough to overcome these two main barriers. Parking lot projects are inherently more likely to be sited near significant load and therefore when further studies and analyses are completed relevant to grid benefits provided by

[13] Knight, P., Odom, C., Camp, E., Bhandari, D., & Frost, J. (2020). Solar Siting Opportunities for Rhode Island: An analysis of potentials and costs of rooftop, landfill, gravel pit, brownfield, commercial and industrial ground-mounted and carport solar [Report prepared for Rhode Island Office of Energy Resources]. Synapse Energy Economics.

distributed generation - we anticipate greater value will be reflected in this category of project as can be seen in New York's Value of Distributed Energy Resources which assigns a value as high of $0.85/kWh during the summer months due to demand relief value and locational system relief value[5].

6. How can we ensure that our public engagement process is inclusive and accessible to all?
7. What public engagement methods would you recommend to elevate the voices, perspectives, and needs of low income and disadvantaged communities?

It is critical to meet communities where they are by attending and hosting local events in collaboration with strong pillars in the community, in accessible locations that are known and meaningful for that particular community. For communities that prefer verbal testimony and verbal accounts of experience, those compiling information for the 2025 Climate Action Strategy should conduct interviews, in addition to comments, polls, and surveys.

Scenario Building and Projections

In the Rhode Island 2022 Climate Update by the RI EC4 approved December 15, 2022, bottom-line factors that reduce electric sector emissions included (1) Reducing electricity consumption reduces emissions and (2) Producing electricity with renewable energy reduces emissions and appropriately crediting RIs investment in renewable energy in the inventory. Ecogy understands that Rhode Island's current method for estimating emissions from the electric sector is based on annual state-wide electricity consumption.

The electric sector emissions inventory includes (1) compliance with the Renewable Energy Standard (RES), (2) emissions of in-state fossil-based electricity generation, and (3) emissions of fossil-based electricity from our regional electric grid.

8. What type of climate/emissions reductions modeling would you like to see conducted for the 2025 Climate Action Strategy?
9. What do you think was missing from the modeling included in the 2022 Update?
10. Do you have any models, or modeling approaches that you recommend and why?
11. What other modeling factors and considerations should be considered for the 2025 Climate Action Strategy?

Virtual Power Plants ("VPPs") to Promote Resilience and Reliability

The U.S. electricity grid has a problem. At times of peak demand, utilities need to temporarily provide more electricity than usual in order to maintain resource adequacy—meeting 100% of demand. This has historically been done with natural gas 'peaker' plants, and more recently, with battery storage. But these methods are incredibly expensive, and natural gas comes with negative environmental externalities.

There's another option: Virtual Power Plants (VPPs), portfolios of actively controlled distributed energy resources (DERs), like solar panels, batteries, and smart thermostats. VPPs can be adjusted to maintain resource adequacy during times of peak demand.

A white paper by The Brattle Group suggests that widespread adoption of VPPs could reduce the cost of maintaining resource adequacy by 40-60% compared to conventional alternatives—and that's not including the positive societal externalities that come from reduced pollution and increased grid resilience.[14]

The cost savings for the U.S. energy grid from adopting DERs could be as high as $473 billion by 2050. A white paper from Vibrant Clean Energy offers numbers that show the incredible value proposition of distributed energy resources (DERs).[15] Compared to business as usual scenarios, the widespread implementation of clean energy DERs is projected to accumulate systemwide savings of $114 billion by 2035. And the adoption of DERs can lead to "net system cost savings, increased jobs, more manageable installation rates, a more reliable and robust system, and more opportunities for private capital investment." The State of Rhode Island ("RI") should adopt policies and incentives to support local distributed generation now, responding to the urgent need for a decarbonized grid.

Urgency to Deploy Solar As Soon As Possible

The Brattle Road to 100% Report indicates that in order for Rhode Island to meet its goal of 100% renewable electricity, solar distributed generation projects will have to increase 10 fold by 2030.[16] Given that 2030 is only 7 years away, Ecogy believes that Medium-Scale solar projects will play an extremely consequential role in achieving the necessary 10 fold increase in solar DG installation. The reason being that many of these larger distributed generation solar projects (>1MW) can and have very long timelines as compared to Medium-Scale, ultimately taking anywhere from 3 to 5 years to reach completion and operation. The long timelines of these larger scale solar projects can become a significant barrier in terms of ramping up solar distributed generation projects to meet the goal of 2030 - not just because they take longer to complete but also because they delay the completion of smaller, and better-sited solar projects by clogging interconnection queues and limiting site availability for other projects.

Unlocking Energy Storage Deployment in Rhode Island

Energy storage has the potential to save lives by offering continuous backup power in a disaster, enabling locals to refrigerate food and medications, as well as charge mobile devices for communication. Customers have the opportunity to boost energy resiliency when they switch to greener energy sources such as solar systems which are increasingly paired across the nation with an energy storage component. Battery storage system installation in RI remains elusive despite this encouraging trend in neighboring markets.

Case Study: Providence Infrastructure and Failing Storm Barriers

Impacts On Rhode Island by State of Rhode Island Climate Change

[14] Hledik and Peters (2023). Real Reliability: The Value of Virtual Power. The Brattle Group. https://www.brattle.com/real-reliability/
[15] Clack et al. (2020). Why Local Solar For All Costs Less: A New Roadmap for the Lowest Cost Grid. Vibrant Clean Energy. https://www.vibrantcleanenergy.com/wp-content/uploads/2020/12/WhyDERs_TR_Final.pdf
[16] Murphy et al. (2020). The Road to 100% Renewable Electricity by 2030 in Rhode Island. The Brattle Group. https://energy.ri.gov/renewable-energy/100-percent-renewable-electricity-2030

> *"The impacts of climate change upon Rhode Island's built and natural environments are wide-ranging, discernible and documented, and, in many cases, growing in severity. Rhode Island will experience warmer air and water temperatures, more extreme weather events such as droughts, intense precipitation, severe storms and flooding, increasing rates of sea level rise, shorter winters and longer summers, and less snowfall and ice coverage. Climate change has the potential to pose significant risks for Rhode Island's water, wastewater, surface transportation, and energy infrastructures and utilities, our natural environment, and our health, welfare, and economic well-being."*[17]

The City of Providence is a low lying city that is highly susceptible to climate change disasters. The Fox Point Hurricane Barrier was intended to provide protection against tidal flooding from hurricanes and other coastal storms being exacerbated by climate change to about 280 acres of downtown Providence. With a combination of sea level rise, storm surges, and existing critical infrastructure in flood zones, Providence may experience unsafe conditions, power outages, and increased health impacts.[18] A diversified grid will help mitigate future storms by producing clean energy to help with climate change and reduce storm action. Renewable-based DG can assist important emission reduction objectives and climate resilience in addition to its function in enabling economic and social development through increased energy access. In order to increase climate resilience, renewable DG systems, especially when coupled with energy storage, can spatially diversify the power supply, lessen reliance on fossil fuels, enable backup energy supplies, reduce demand on the central grid, and reduce transmission and distribution ("T&D") losses.[19]

Utilities in Rhode Island should be engaged in the 2025 climate action plan because updates from the Utility requiring modifications to interconnection plans and equipment, after an agreement has been executed have led to project delays and cancellations.

RIE prepared slides on Interconnection Trends for the RI DG Board on 4/24/23, showing that applications have fallen rapidly year over year. In the Analysis of REG Program Attrition prepared for the DG Board 4/24/23 and 5/22/23, **data found that in certain years such as 2016, 2018, and 2019, the Proportion of Total Awarded Withdrawn by Program Year was 40-50%.** Projects in recents years are still developing so trends will emerge over the next few years, and we expect the trend to continue.[20]

Utilities efficiency and collaboration is necessary and not just a matter of finding a solution, it's also a matter of time and efficiency because working through project challenges costs developers real funds in terms of our employees' time and can directly result in a project being canceled due to an option period or incentive deadline expiring. This is reflective of 30% withdrawn applications being due to expired COEs.

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[17] State of Rhode Island Climate Change https://climatechange.ri.gov/climate-sciences
[18] Rising threat Can Providence's hurricane barrier withstand sea-level rise? BY ALEX KUFFNER https://stories.usatodaynetwork.com/risingthreat/home/
[19] Emerging Climate Change and Development Topics for Energy Sector Transformation: An EC-LEDS White Paper Series September 2016 Sadie Cox, Pieter Gagnon, Sherry Stout, Owen Zinaman, Andrea Watson, and Eliza Hotchkiss National Renewable Energy Laboratory
[20] Rhode Island Distributed Generation Contracts Board https://opengov.sos.ri.gov/OpenMeetingsPublic/OpenMeetingDashboard?subtopmenuId=201&EntityID=873&MeetingID=1004975

Latent distribution system flexibility offers bulk power system opportunities

Ecogy recommends the state develop long-term planning and rules that match with the high-level policy goals to decarbonize the energy system and protect against climate change. Distribution system flexibility is still a largely untapped opportunity, ecogy believes this opportunity can be maximized by accessing potentially different rules for different parts of the grid based on engineering and planning advice. There is a huge opportunity for distributed energy resources to unblock hosting capacity constraints, releasing private capital to deliver projects that provide flexibility for both distribution and transmission systems. For example, Hawaii has developed schemes that are part of a wider flexible interconnection framework that have been working for 5 years.[21]

Analyses

12. Do you have any suggestions or considerations for any of the five analyses listed above?
13. The benefits analysis will include an examination of co-pollutants (including, NOx, SO2, PM2.5, VOCs, air toxics). What other types of benefits would you like to see included in this analysis?
14. Would you like to see any additional analyses conducted, and if so, why?
15. Are there any specific stakeholder groups you would like to see engaged in any of the analyses?
    a. Universities and colleges
        i. May be best suited for verbal interviews and sociology based research including case studies with impacted communities such as environmental justice communities to provide storytelling regarding experience with climate change and health impacts, as well as potential solutions
    b. Environmental organizations that specialize in data and research

Preparation of the Final Report

16. Do you have any suggestions for how to best design and craft the 2025 Climate Action Strategy's final report?
17. How would you like to see the results of the 2025 Climate Action Strategy shared with the public and various groups, beyond just the release of the final report?

General Question

18. Is there anything missing from the outline of tasks that you wish to see added to the scope of work?

We thank you for careful consideration of these comments and appreciate your support of the clean energy industry in the Ocean State.

[21] Advanced Inverter Voltage Controls: Simulation and Field Pilot Findings. National Renewable Energy Laboratory and Hawaiian Electric. October 2018

Warmest regards,

/s/

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June 15, 2023

Comments of Peter Trafton, of Providence,

There is ample recognition of the importance of communicating with the public and winning support for the policies and plans called for by the act on climate.
Specific efforts to carry out this part of the AOC's mandate do not appear to have received much attention.

The EC4's efforts to communicate with the public are indeed laudable, but the participants in the listening sessions and workshops are relatively few, and usually members of a small group of activists and other interested parties. Are there data about the actual numbers of participants for all 20 meetings, rather than a sum of the attendance figures. I think it's fair to say that only a very small proportion of Rhode Island's population was aware of these meetings or participated.
Public communications – press releases, reports in news media (newspapers, television, radio, press releases to the public from state agencies, lectures and courses for the public presented by public groups or educational institutions seem limited and, to my knowledge, not inventoried.

My colleagues from the Act on Climate Implementers Group (Amanda Barker, Emily cool, and Darrèll Brown), in their comments on public engagement, have emphasized the importance of securing effective engagement communications and collaboration among multiple organizations and stakeholders. I agree with what they say, but my purpose here is to promote efforts *to communicate with all Rhode Islanders*, since we are all stakeholders, and our acceptance and support of climate transition measures will be key to achieving the Act on Climate's goals.

Stakeholder engagement is not the same thing as developing and maintaining public support for Rhode Island's Just Transition from fossil fuels to local renewable energy sources.

During recent months, we have seen efforts to dissuade the public from supporting renewable energy – especially offshore wind energy and also increased use of photovoltaics. Some of the obstructive efforts are well-funded by fossil fuel supporters and industry members. Some are related to concerns about impacts on our environment – forests, fishing, viewscapes etc. In our democratic system, efforts to mold policy include not just selected facts but misinformation and disinformation. It is not enough for us to engage with knowledgeable advocates and other "stakeholders". We must ensure that a large majority of Rhode Islanders *are and stay on board* with our developing climate strategies.

Public health advocates have, for many years, worked to develop the art of persuading the public to recognize and act in their best interests. These efforts – often called "Social

Marketing" - borrow market research and public influence practices from the profit-oriented advertising and marketing world. Needless to say, they involve investment of efforts and funds, with the expectation of measurably significant effects.

> "What Is Social Marketing? The term "social marketing" refers to the adoption of commercial, promotional technologies into programs that are intended to influence the response of target audiences to improve both the individuals' well-being and the well-being of the community in which they belong."

https://sph.umich.edu/pursuit/2023posts/using-social-marketing-to-improve-public-health.html

https://www.aceee.org/webinar/becc-webinar-changing-transportation-and-energy-use-behavior-learning-denmark-and-australia

https://toolsofchange.com/en/home/

It's not clear that Social Marketing alone is adequate for affecting public attitudes and actions re climate change policies, as discussed by Corner & Randall 2011, Global Environmental Change 21,1005-1014. (I provide a copy of this paper.) The authors present several additions to consider.

Though I did mention the importance of motivational outreach to all Rhode Islanders at one of our discussion sessions, I've seen very little mention of this very important aspect of keeping the hearts and minds of our state focused on the prize of a just transition. This lengthy process (as discussed by Ken Payne at this week's Climate Justice Hour) is hardly a one-shot deal. A sustained effort will be required to keep the public behind it for the 27 years before our 2050 target. And the task does not end then, as generations of Rhode Islanders will need to maintain the efforts of decarbonization and resiliently coping with the damages produced by global climate change.

Thus, I write to urge the EC4 and everyone else involved to start working immediately to develop effective understanding and action in response to climate change. This will require funding, identifying capable consultants, preliminary studies to understand where the hearts and minds of our citizens are now, and to identify ways that we can achieve and maintain the necessary statewide commitment. We must develop a plan, institute it, monitor its results, adjust as needed and continue for the long run.

Unlike many of the political actions that we are used to, this is so much more than a single election or a single campaign for a desirable outcome. We need to learn from other states and countries, but we should start soon to create the knowledge and skills here in Rhode Island. We can start with work by organizations like Pew Research and the Yale Program on Climate Communication – but focus on Rhode Islanders.

Thank you very much for considering my comments.

Ms. Elizabeth Stone
RI Department of Environmental Management
Executive Coordinating Council on Climate Change (EC4)
235 Promenade St.
Providence, RI

June 15, 2023

Dear Ms. Stone,

We submit these comments in response to the recent release of a Request for Information (RFI) on the development of the Rhode Island's 2025 Climate Action Strategy. Through these comments, we wish to demonstrate the interest and collaborative spirit of the Rhode Island commercial fishing industry in identifying statewide decarbonization pathways capable of attaining Rhode Island's net-zero greenhouse gas emissions target by 2050, while also upholding, or even improving, the integrity of the state's ecosystems and the wellbeing of its resource-dependent communities. While our particular focus and expertise is on fishery-supporting ecosystems, we also acknowledge the importance of terrestrial ecosystems and defer to experts in those areas to lead the way towards a framework for climate action that is "farm, forest, and fishery friendly."

These comments are the product of an ongoing collaboration between the Commercial Fisheries Center of Rhode Island (CFCRI) and Fishery Friendly Climate Action L3C (FFCA). Below, we provide a brief background on each of these entities.

CFCRI is the home for the Ocean State's commercial fishing community. It brings fishermen, scientists, managers, and elected officials together in a collaborative effort to improve our fisheries and our understanding of the marine environment so that the proud heritage of our industry continues nobly through future generations.

FFCA is the backbone entity for the Fishery Friendly Climate Action Campaign, a bicoastal initiative that provides commercial fishermen, fisheries associations, and seafood businesses with tools, networking, access, and knowledge to advocate for robust climate solutions that work *for* U.S. fisheries and not at their expense. "Fishery friendly" climate action is defined as actions that:

- Reduce, sequester, or avoid greenhouse gas (GHG) emissions;
- Avoid collateral impacts on the physical, chemical, and ecological properties and processes of ocean, coastal, estuarine, and watershed environments;
- Avoid interference with the harvest and provision of wild seafood;
- Wherever possible, contribute conservation co-benefits that enhance the resilience of ocean, coastal, estuarine, and watershed ecosystems;
- Help the fishing industry address its own carbon footprint by supporting transition to low-carbon fishing vessels; and
- Contribute to putting the U.S. on track to reduce its share of GHG emissions to a level that will hold warming well below 2°C while pursuing efforts to limit warming to 1.5°C.

In keeping with these commitments, the CFCRI and FFCA encourage the EC4 to include in its 2025 Climate Action Strategy a focus on defining, modeling, and collaborative planning for the

purpose of harmonizing the decarbonization of Rhode Island's economy with the resilience and sustainability of its ecosystems and the communities who depend on them.

Our focus on fishery friendly climate action aligns with the efforts of terrestrial conservation groups who are advocating for legislation and planning approaches that minimize development of utility-scale solar farms within core forest areas in the state. We support that goal and draw important parallels to the efforts of the fishing industry to constrain development of industrial-scale offshore wind in important fishery habitats like Cox's Ledge. While both of these efforts have met with limited success to date, the 2025 Climate Action Strategy marks a pivotal opportunity to align state planning around a holistic framework designed to uplift win-win strategies that put Rhode Island on a path to reach its decarbonization targets while upholding the integrity and regenerative use of the natural land- and seascapes that Rhode Islanders cherish.

It is vital to include the communities most impacted by both climate change and decarbonization solutions in planning related to Rhode Island's 2025 Climate Action Strategy and the EPA Climate Pollution Reduction Grant process. As a community that is acutely impacted *both* by climate change *and* decarbonization solutions (most notably offshore wind), the fishing community has much at stake, both in assuring that greenhouse gas reduction goals are met and also in assuring that any negative impacts to fishery ecosystems from the decarbonization strategies used to meet these goals are minimized and mitigated. But like many such communities, the fishing community lacks capacity to effectively engage in the growing plethora of processes related to climate resilience and decarbonization planning. The EC4 public engagement process can help rectify this.

Before we consider the specific questions asked in the EC4's RFI on the 2025 Climate Action Strategy can best engage the fishing community, we would like to highlight some of the work that we are doing on our end related to decarbonization planning, and to share our hope of working with the EC4 to identify areas of crossover where this work may be leveraged and integrated into the 2025 Climate Action Strategy.

As context for this work, while the fishing community has done its best to remain abreast of fast-paced developments in offshore wind siting, permitting, and impacts mitigation, its members have not had the time or preparation to become involved in broader decarbonization planning at the state or federal levels. To begin to address this gap, the CFCRI and FFCA recently applied to the University of Rhode Island's Partnership For Research Excellence in Sustainable Seafood (PRESS) for $44,455 to carry out a project titled "Participatory Decarbonization Planning with Rhode Island's Fishing and Seafood Industries."

If funded, the project will proceed along two tracks. One of these tracks will assemble a partnership to plan for a transition to a low-carbon Rhode Island fishing and seafood industry. By bringing together a task force of members of the seafood and fishing industries, relevant government agencies, and knowledge and thought leaders on the topic of low-carbon energy innovation in marine applications, this track will identify near-term and long-term actions and investments that can prepare the fishing and seafood industries to thrive in a post-carbon world.

The second track will involve knowledge synthesis and community engagement to champion "fishery friendly" climate action in Rhode Island. Through this track, we will: prepare climate leaders within the fishing industry to participate robustly in Rhode Island's state-level

decarbonization planning process (including the EC4 process and input to the 2025 Climate Action Strategy); develop a framework to assess prospective decarbonization solutions along a spectrum of fishery impacts (positive and negative), and apply this framework to decarbonization modeling and planning in Rhode Island; and build allyship with other climate-impacted constituencies in the food system to jointly identify decarbonization solutions that we can advance together. As part of this work, we are beginning to engage in the Rhode Island Food Council's Working Group on Climate and Environment. As these activities ramp up, the fishing and seafood industries will become more prepared to engage through the EC4 process in informing the 2025 Climate Action Strategy.

Additionally, the signers of this letter serve on the advisory committee on the development of the 2nd "Relish Rhody" Food Strategy spearheaded by RI's Director of Food Strategy Julianne Stelmaszyk, who also serves on the EC4 Science and Technical Advisory Board. FFCA coordinator Sarah Schumann signed up to assist with the writing of issue briefs focused on food system and greenhouse gas emissions (which will explore current programs and develop strategies to reduce emissions in the farming, fishing, food manufacturing, and food waste) and renewable energy, agriculture, and fisheries (which will seek to mitigate and find collaborative strategies to produce environmentally and economically viable solutions to conflicts arising between climate goals and sustainable fishing and farmland preservation efforts, such as from expanding solar panel farms and offshore wind farms).

The parallel efforts of the EC4 2025 Climate Action Strategy planning process and the Relish Rhody 2.0 Food Strategy process offer valuable opportunities to harmonize Rhode Island's decarbonization planning with its food system planning. Just as climate and renewables will be integrated into the Food Strategy process through development of the two issue briefs mentioned in the past paragraph, we encourage the EC4 to integrate food system considerations into the 2025 Climate Action Strategy as a complementary approach to harmonizing these two important goals.

Below, we elaborate on several specific questions posed in the RFI.

Public Engagement

1. What forms of public outreach and engagement should be conducted?

We hope that the 2025 Climate Action Strategy process will include ample opportunity for food system practitioners, including members of the fishing and seafood community, to actively engage in learning, exploration, and recommendations to inform the future direction of decarbonization planning in Rhode Island. We recommend dedicated meetings to bring food system and decarbonization planners together to discuss the confluence of these two issues and identify strategies that can be used to harmonize the priorities of both communities.

More broadly, we would encourage the EC4 to consider convening a special advisory body of frontline community group representatives to help steer the work of the 2025 Climate Action Strategy. Frontline communities may have a different angle on this work than State employees, consultants, professionally staffed environmental groups, and other "traditional" participants in the work of the planning bodies like the EC4. It is vitally important to ensure that frontline communities are at the forefront of climate planning in Rhode Island alongside other experts.

2. How can we best support community organizations to engage in or help lead these processes?

Community members lying outside of the category of salaried professionals have very little capacity to invest in becoming adequately informed and engaged in climate change planning processes. Although climate change affects everyone, the most severe impacts are often felt by those with the least capacity to become involved in climate planning. Fortunately, government leaders are beginning to realize the importance of engaging frontline and underserved communities in decarbonization planning. As an example, some portions of the 2022 federal Inflation Reduction Act allocate funding for supporting the capacity of underserved communities to participate in and carry out their own planning relating to climate resilience and decarbonization. We applaud this shift.

The EC4 should make it possible for all communities in Rhode Island who are affected by climate change or climate solutions to be as involved as they wish to be in the 2025 Climate Action Strategy process. This will require that representatives of these communities be provided with both time and financial resources to participate. The fishing community is one of these communities; others include the farming and food community, low-income communities and ratepayers, indigenous communities, and others who are on the front lines of climate change or climate solutions but currently lack the preparation and capacity to fully engage in public processes related to these topics.

4. Which groups should be included, and do you have suggestions for how to include them?

Our own focus is on the fishing and seafood community, and we offer ourselves as conduits to this community and potential participants in the recommended frontline community advisory group. The CFCRI is an umbrella group representing all sectors the state's commercial fishing fleet, while FFCA is an open network committed to serving all members of the U.S. fishing industry. FFCA coordinator Sarah Schumann previously coordinated the Resilient Fisheries RI process, which engaged 125 Rhode Island commercial fishermen in an extensive planning process related to climate change adaptation and resilience. As these statements indicate, our networks are expansive and our reputation for transparency and inclusion is solidly established within the fishing community. We would welcome the chance to collaborate with the EC4 to engage members of the Rhode Island fishing community throughout the 2025 Climate Action Strategy process.

6. How can we ensure that our public engagement process is inclusive and accessible to all?

To improve the ease of attending meetings for everyone, we recommend hybrid meeting formats (continuing the EC4's existing practice). When holding meetings with the fishing community, we recommend meeting locations that are familiar and accessible to fishermen, such as the East Farm Commercial Fisheries Center or the URI Bay Campus (Hazard Room or Corliss Auditorium). We also recommend times in the early evening (between 4:00-7:00pm) when fishermen are most likely to be available.

We recommend the inclusion of funding for stipends for community representatives to participate, particularly if a frontline community advisory group is convened to advise the process. Stipends can help overcome financial barriers to participation, while putting participants

on a more equitable footing. However, it is important to have clear, equitable, and transparent processes in place when determining eligibility and selection of stipend recipients.

Scenario Building and Projections

8. What type of climate/emissions reductions modeling would you like to see conducted for the 2025 Climate Action Strategy?

The 2025 Climate Action Strategy offers a vital opportunity to explore and identify decarbonization pathways that not only help Rhode Island achieve net zero by 2050, but simultaneously address other goals important to Rhode Islanders. These will likely include cost considerations and equity for ratepayers, but should also include consideration of how the selection and relative weighting of decarbonization strategies encouraged in the state can be tailored in such a way as to maximize positive impacts and minimize negative impacts to the state's wildlife and ecosystems. Multiple pathways to reach net-zero by 2050 are possible, and we strongly encourage the EC4 to use modeling to divine the most "farm, forest, and fishery friendly" decarbonization pathways available for Rhode Island.

Two recent publications stand out as exemplars of this kind of approach, and while neither focuses on fisheries, they provide templates that can be extrapolated for the purposes recommended in this letter. The Nature Conservancy's "Power of Place" report (May 2023) lays out a vision and recommendations that steer energy planners and policymakers towards thoughtful net-zero strategies that benefit climate, conservation, and communities. "Achieving Zero Emissions with More Mobility and Less Mining" (February 2023), by Thea Riofrancos (Providence College) and collaborators, finds that the U.S. can achieve zero emissions transportation while limiting the amount of lithium mining necessary by reducing the car dependence of the transportation system, decreasing the size of electric vehicle batteries, and maximizing lithium recycling – thereby ensuring transit equity, protecting ecosystems, respecting Indigenous rights, and meeting the demands of global justice.

Building on this kind of work in the decarbonization pathway modeling and planning context is vitally necessary to ensure that climate action supports, and does not undermine, natural ecosystems, local economies, and healthy communities. Specifically, we call on the EC4 to engage communities in development of a "farm, forest, and fishery friendly" framework for identifying and prioritizing decarbonization pathways that offer win-wins, rather than harsh tradeoffs, for the climate and local ecosystems.

10. Do you have any models, or modeling approaches that you recommend and why?

If our proposed PRESS proposal is successfully funded, the CFCRI and FFCA will begin in August 2023 an effort to develop analytical tools to operationalize the notion of "fishery friendly" decarbonization pathway modeling. We detail our proposed process here, in the hopes that our work may dovetail into the 2025 Climate Action Strategy process.

Step 1 of our proposed project is to identify relevant experts across Rhode Island's academic, government, and NGO community. Using expert elicitation – a technique that is especially useful where data is sparse, uneven, or where there is a high degree of uncertainty about future

projections – we will aim to answer the question "How can we compare the known and potential impacts of a broad range of decarbonization solutions on aquatic and marine ecosystems and the fishery-related ecosystem services that these ecosystems provide?" Step 2 of our proposed project is to assemble a comprehensive framework that qualitatively compares direct and indirect impacts (positive, negative, and neutral) on fishery ecosystems and services resulting from a wide range of decarbonization solutions (technologies, investments, and policies) that may be applied in Rhode Island. Step 3 of our proposed project is to work with an energy modeler to sketch out the contours of one or more scenarios that achieves steep emissions reductions while supporting fishery ecosystems and services. Because of limited funding, our energy modeling consultant (Chester Energy and Policy LLC) will not be able to actually conduct such modeling, but will rather provide advice on what such a modeling activity *could* include.

Hence, we strongly encourage the EC4 to empower its chosen consultant to map out one or more fishery friendly decarbonization pathway scenarios for the state, using the same modeling procedures that this consultant will use for development of other optional decarbonization pathway scenarios, but with the added layer of input provided by Steps 1 and 2 of our PRESS project and through a participatory process that includes representatives of the fishing community.

Analyses

13. The benefits analysis will include an examination of co-pollutants (including, NOx, SO2, PM2.5, VOCs, air toxics). What other types of benefits would you like to see included in this analysis?

As stated previously in this letter, we strongly encourage an analysis of the interactions between different decarbonization solutions and pathways with Rhode Island's terrestrial and aquatic ecosystem, with the goal of producing a 2025 Climate Action Strategy that is "farm, forest, and fishery friendly." The "benefits" in this case would include a sustainable and resilient food production sector and the capacity of Rhode Island's lands and waters to continue providing carbon sequestration, benefits to wildlife and biodiversity, and recreation and meaning to all Rhode Islanders.

14. Would you like to see any additional analyses conducted, and if so, why?

As stated above, we strongly encourage the EC4's chosen consultant to incorporate an analysis of impacts and tradeoffs between decarbonization pathways and the farms, forests, and fishery ecosystems that collectively represent much of Rhode Island's food system and wildlife habitat. As fishery experts, we recommend the modeling of at least one decarbonization scenario designed to help Rhode Island attain net-zero by 2050 in the most fishery friendly manner possible. However, it is important to simultaneously model farm- and forest-friendly pathways and to illuminate any tradeoffs that may occur between these three related priorities, and between other factors of importance, such as costs and equity.

15. Are there any specific stakeholder groups you would like to see engaged in any of the analyses?

We look forward to convening members of the fishing community to engage with the EC4 and its consultant to propose and model fishery friendly decarbonization pathway scenarios.

Thank you for the opportunity to comment.

Sincerely,

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State of Rhode Island

RFI - 2025 Climate Action Strategy

Response to Public Input Request:
2025 Climate Action Strategy Scope of Work

Response Due: June 15th, 2023

Prepared By:
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June 15, 2023
Sheila Dormody
Advisory Board Chair
RI Executive Climate Change Coordinating Council
One Capitol Hill
Providence, RI 02908

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1919 North Lynn Street
Arlington, VA 22209

RE: Deloitte's Response to Rhode Island's RFI on the 2025 Climate Action Strategy

Dear Ms. Dormody:

Deloitte[1] is pleased to submit our response to the Rhode Island's Executive Climate Change Coordinating Council Request for Information to Support the Development of a Scope of Work for the 2025 Climate Action Strategy ("Strategy"). In the following pages, you will read about our suggestions for developing the Strategy.

The state government of Rhode Island has made significant progress in establishing emissions mandates via the 2021 Act on Climate outlining the state's goal to achieve net-zero by 2050, measuring and tracking Greenhouse Gas (GHG) emissions across the state, designing and implementing programs to mitigate and adapt to climate change. With the plan to design and support the 2025 Strategy, through the Environmental Protection Agency's (EPA) Climate Pollution Reduction Grant (CPRG) program, Rhode Island has an exciting opportunity to build upon its existing momentum. An emphasis on public engagement, partnerships with the private sector, workforce development, and disadvantaged communities in designing Rhode Island's new decarbonization strategies, will enable an even more effective and successful climate strategy and just and equitable energy transition.

Our response relies upon our extensive experience performing similar work, including designing strategies that benefit disadvantaged communities and developing benefit measurement methodologies for government agencies; evaluating workforce readiness through optimization and analysis of data; establishing public-private partnerships, and planning and forecasting emissions to implement decarbonization efforts in both public and private sectors.

We appreciate the opportunity to share our thoughts and approach with you. Should you have any additional questions, concerns, or comments regarding our response, please do not hesitate to contact Ryan at **ryfitzgerald@deloitte.com** or (781) 354 2341, Rana at **rsen@deloitte.com** or (703) 342 6112.

Sincerely,

Ryan Fitzgerald
Principal
Deloitte Consulting LLP

Rana Sen
Managing Director
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[1]As used in this document, "Deloitte" means Deloitte Consulting LLP, a subsidiary of Deloitte LLP.

1.0 Public Engagement

Effectively engaging Rhode Island's businesses, communities, stakeholders, and local municipalities along with regional entities across New England in designing and implementing the 2025 Climate Action Strategy ("Strategy") will be the cornerstone to achieving the state's climate goals. While the state government has important policy levers it can pull to reduce emissions, it cannot be successful in achieving net-zero emissions by 2050 alone, particularly at a time when public trust in government has been challenged by the health, social, and economic uncertainty brought about by the pandemic and climate change. To meaningfully engage the public, the Rhode Island Executive Climate Change Coordinating Council (EC4) will need a strong understanding of public sentiment around climate change to inform engagement strategies, a detailed plan that positions public engagement as a primary management discipline and moves toward the co-creation of emissions reduction plans and community ownership of climate programming, and a partner with experience navigating the complexity of working across diverse communities and stakeholder groups to address climate change.

1 What forms of public outreach and engagement should be conducted?

Human-Centered Design ("HCD"): Bringing the human being into focus

As outlined in ***Elevating the Human Experience,*** HCD starts with the premise that an individuals' beliefs, values, feelings, and ambitions are important because they form the foundation for who they are and what they want from organizations with which they engage. It puts people at the center of the design, development, and delivery of public policies and programs, and turns the traditional approach to problem-solving inside out, by starting with understanding key stakeholders (instead of operational goals) to identify root causes and design for the white space of unmet needs.

A combination of participatory engagement practices (e.g. methods that engage impacted stakeholders like listening sessions, panels, workshops, focus groups, steering committees, etc.) and deliberative approaches (e.g. facilitated scenario planning, citizen advisory/working groups, public dialog using consensus-building strategies, community-driven planning, etc.) would enable EC4 to effectively engage the public. In our applications of HCD, we have found that credibility and buy-in result from enabling impacted stakeholders to influence all stages from providing meaningful input during the definition of the problem and design of a project, throughout implementation, operation and maintenance, and decommissioning. In addition, to foster public support throughout the entire execution of the Strategy, EC4 must effectively communicate its progress at regular intervals via ongoing outreach and public forums.

2 How can we best support community organizations to engage in or help lead these processes?

Rhode Island should consider a laddered approach to increasing engagement with communities and community-based organizations. The first rung of the framework, *Inform*, is a one-way information flow from the state government to local communities on the 2025 climate strategy planning processes to gain buy-in from communities through open houses, fact sheets, presentations, billboards, and more. As the state moves up the Ladder of Engagement, the communities assume a greater role in self-determination, from *Consult* where the community

The Ladder of Community-Centered Stakeholder Engagement

In Deloitte's article on ***Climate Equity,*** we outline our ladder approach to community-centered stakeholder engagement where each "ladder rung" is representative of a level of engagement by the community. The ladder rungs span from Inform, Consult, Involve, Collaborate, to Community Ownership, where communities lead/own implementation and benefit measurement.

can provide input into the strategy planning processes, to *Involve* where community concerns are considered fully and reflected in planning, to *Collaborate* and *Community Ownership*, where the community assumes greater power as decision-makers for what gets included in the strategy and ultimately leaders and co-owners of climate projects, holding joint responsibility for securing benefits of the projects in their communities. Deloitte's Ladder of Community-Centered Stakeholder Engagement approach helps understand where on the ladder does the state, program or project team currently engage with each stakeholder group compared with the desired level of engagement, then helps construct strategies and tactics to transition between the current level of engagement to the desired level. EC4 can engage communities in every step of the Strategy process, from planning to implementation to evaluation, de-risking the entire process by garnering trust, buy-in, and ownership from residents, thus mitigating community-based roadblocks later. Community organizations play an important role in facilitating this process with residents as well as in piloting programs and monitoring outcomes against the defined benefit metrics.

3 What areas of public engagement and outreach should be led by the state, by the community, by the consultant, or in which areas would you recommend collaboration for optimal results?

As described in our response to Question #2, we suggest a collaborative approach with communities and the broader public that starts with a flow of information and evolves to community ownership of components of the Strategy planning, implementation, and evaluation. While the state should play a role and be present in the engagement activities, EC4 would benefit from a third-party (consultant) organizing and facilitating public engagement efforts in close partnership with local community-based organizations. Thus, we recommend communities ultimately lead and own climate programs, community-based organizations (CBOs) support engagement processes with community members, a consultant designs, plans, and facilitates engagement with community members and organizations helping to build the capacity of the CBO to lead engagement activities over time, and the state government decides and approves on collaboration and engagement plans and methods and maintains involvement throughout.

4 Which groups should be included, and do you have suggestions for how to include them?

Given the complexities of designing and implementing a successful climate strategy, EC4 can view all stakeholder groups as an "ecosystem" where groups are interacting and dependent upon one another to be engaged for the full strategy to be successful. Groups that would benefit from being a part of this ecosystem are:

- Rhode Island based non-profits, charitable foundations, and community-based activists and organizations with long-standing relationships with their communities. These groups often serve as the voice of under-resourced populations and can provide guidance on ways to engage community members, advise how to best tailor solutions to their community, and support the community engagement processes described in the prior responses.
- Historically underserved and/or low-income and disadvantaged communities (LIDACs) who can be engaged for ownership of climate programming and to support addressing historic inequities in their communities as part of the Strategy implementation.

- Highly climate-impacted stakeholders, communities, and populations including those who experience coastal and inland flooding, those impacted by extreme heat like outdoor workers, those experiencing commercial fishing or agricultural loss, etc.
- Industry and business leaders who can inform plans to support climate goals, enable a just transition within impacted industries, regions, and workforce groups, and partner with the state via public-private partnership models to invest in and implement climate projects.
- Local scientific community who can provide expert climate-related knowledge, approaches, and innovations specific to the State and high-impact regions. It is particularly important to engage this community as part of the Strategy planning phase to provide evidence-based inputs on GHG emissions reduction measures.

EC4 should also consider the diversity and geographic representation of the ecosystem groups to enable a holistic representation of the state in the Strategy. Community-centered inclusion in climate planning also requires best practices such as: impacted communities being represented in decision-making bodies within the governance model, and being considered in transparency and accountability measures (i.e. the truthful communication of project burdens, project benefit evaluation, and enforcement of community agreements).

5 What did you like about the stakeholder engagement process for the 2022 Update, or any other public engagement process? What would you like b see improved, and how?

The 2022 Climate Update highlights the following Priority Action: “create space for meaningful conversation - continue climate justice conversations in communities and with a new climate justice advisory board”. This is a key commitment to expanding the stakeholder engagement process to all voices; it can be improved upon by defining specific strategies that will be employed to do so, in addition to the community listening sessions and open meetings utilized today. Recommended strategies are covered in our responses to Questions #1, #2, and #7.

The Update also mentions engaging “business communities… to meet our greenhouse gas emissions reduction goals.” The scope of this engagement should be expanded to develop and retain a skilled workforce that supports Rhode Island’s climate future, and establish specific public-private partnerships for programs and projects to reduce emissions. This is also a unique opportunity for the state and cross-sector industry leaders to work together to capture as much value as possible from federal funding opportunities (e.g. CHIPS, IIJA, and IRA) that were unavailable in past years.

6 How can we ensure that our public engagement process is inclusive and accessible to all?

The State can use a wide array of methods to engage the public, but to advance inclusivity, we recommend identifying personas that reflect different segments of the public and targeting engagement strategies to each persona based on their stakeholder group characteristics, preferences and specific needs. Creating personas could lead to multiple types of engagement methods including creating of a variety of reading-level materials; basic vs. advanced science-based educational content; designing outreach, communication strategies, and materials for accessibility for all users including those with disabilities, and acting to ensure any groups that cannot be present at engagement events have access to an After-Action Report summarizing the discussion and advising on the proper forums to provide any further commentary. For example,

on a project with a state government agency, we supported the client to design monthly forums for public engagement, sending personalized invites to different groups over the 6-month time period; to remove barriers to participation, transportation was coordinated and subsidized, food and childcare were provided on location, and translators were accessible so that all voices could be truly heard.

7 What public engagement methods would you recommend to elevate the voices, perspectives, and needs of low income and disadvantaged communities?

A just and equitable climate strategy must engage people most vulnerable to climate impacts to create clean, healthy, climate resilient communities with opportunities for all. Often those experiencing the first and worst impacts of climate change are those least responsible for its causes and least able to access resources to adapt to its impacts. Therefore, people who live in LIDACs or identify in a disadvantaged population group require specific consideration. To increase participation and effectiveness, and truly co-create climate solutions and programming with LIDACs, we recommend the Ladder of Community-Centered Stakeholder Engagement described in our response to Question #2. LIDACs should have the opportunity to: provide input on the key elements of the Strategy, including the goals, objectives, projects, and targeted quantitative and qualitative benefits, and make decisions on what gets included in the Strategy; co-own the implementation of the Strategy's climate programs; and be kept up-to-date on all progress and periodically consulted to maintain a trusting relationship.

Our Experience

Deloitte has supported multiple federal agencies along with state and local governments in public and community engagement to deliver climate and energy programming, including designing climate programming aligned with Justice40 and just transition methodologies, identifying at-risk and disadvantaged populations, designing public-facing dashboards to share progress on metrics impacting those groups, launching coordinated communication strategies to exceed industry standards for engagement, and performing ongoing research and monitoring to develop and improve effective climate-solution programs over time.

2.0 Scenario Building and Projections

In order to inform the most effective and impactful near- and long-term GHG emission reduction strategy, an accurate, granular, and full accounting of Rhode Island's emissions profile will be necessary across all sectors. Both the 2016 and 2022 update to the Rhode Island GHG Emissions Reduction Plan laid a solid foundation in establishing a GHG emission baseline across source sectors, but was largely based on estimates with at least a three year lag. Relying on annual emissions averages from several years before the emissions occurred results in modeling based on outdated emissions factors and can lead to under-or over-reporting emissions. Further, the carbon intensity of the grid fluctuates between seasons and hours of the day, and end-user energy usage varies significantly across time, which annual accounting cannot reflect. The lack of timely, accurate, and granular data can inhibit the State's ability to identify optimal emissions reduction measures, which makes it challenging to identify and evaluate truly effective and specific goals, policies, and abatement strategies. Being able to measure and analyze real time GHG emissions, i.e. performing granular modeling of sector-wide emissions profiles and analyzing projections across both business-as-usual and mitigation scenarios, will require robust data collection and analytical capabilities but can enable more effective decarbonization planning and outcomes.

8 What type of climate/emissions reductions modeling would you like to see conducted for the 2025 Climate Action Strategy?

A more granular accounting and analysis of emissions at the sector level (e.g., down to the level of specific power plants, industrial facilities, organizations/businesses, facilities/assets and other point sources) can inform a more accurate understanding of the state's emissions and their sources. The Strategy should consider implementing sub-annual netting of energy and emissions data in order to best identify and implement abatement strategies. While annual netting incurs a lower administrative burden and offers a high level data profile, building a standard of better data measurement is key to creating actionable climate action plans, identifying intervention opportunities, and mitigating emissions with renewable energy certificates (RECs), where appropriate. This, in turn, leads to more effective and targeted decarbonization.

9 What do you think was missing from the modeling included in the 2022 Update?

We understand that EC4 is planning for a separate climate impact/risk plan and strategy, however we recommend that climate risk modeling be conducted in conjunction with the GHG emissions modeling and projections, to identify geographical areas, communities, and critical infrastructure that could be subject to various climate hazards/risks across various time horizons. This kind of analysis can inform where decarbonization and resilience measures can be integrated, not just for infrastructure but also for preparations for community emergency management and response.

Additionally, modeling climate risks across critical assets will help augment abatement analysis. For example, if for the energy sector, integration of renewable energy projects (such as solar/wind, etc.) is the fastest and most immediate mechanism to decarbonize RI's grid, climate hazard modeling in relation to site planning for these projects should be factored into project plans.

10 Do you have any models, or modeling approaches that you recommend and why?

In addition to modeling emissions projections in the near and long term, we recommend EC4 also consider measuring and modeling emissions produced by the state government itself. Before governments can require industries to monitor and reduce carbon emissions, public agencies must demonstrate the willingness and ability to do the same. Rhode Island is a leader in this space, with Governor McKee signing Executive Order 23-06 just last month, updating the state's Lead by Example (LBE) policies to ensure state agencies prioritize emissions reductions in alignment with mandates set forth in the 2021 Act on Climate. In order to meet targets set forth in Rhode Island's LBE mandates, the state government should strongly consider updating its modeling approach to one that relies on hourly emissions rather than average annual emissions. Measuring emissions at this granular level provides the most relevant and actionable GHG emissions data, helping to inform targeted decarbonization actions and investments. This will allow state agencies to get the most detailed picture available of their carbon footprint by understanding building, fleet, and operational emissions within the context of purchased electricity and the carbon intensity of the grid.

Deloitte's Turning Point Modeling and Regional Reports on Climate Change

As part of **Deloitte's Turning Point series**, we model our projections of the impacts of climate change on our global and regional economies. In 2022, we projected the if we fail to take sufficient action to reduce rising temperatures it could result in economic losses to the US economy of $14.5 trillion over the next 50 years and a 4% loss to GDP.

In turn, state agencies will be equipped with the requisite data to make informed, dynamic decisions to drive decarbonization across assets - where and whether to install rooftop solar or

on-site generation, when to charge the state's electric vehicle fleet, when to procure carbon-free energy and utilize renewable energy certificates, and which energy efficiency actions will garner the greatest cost and carbon reduction impact. Further, hourly carbon accounting will enable state agency stakeholders to consistently access accurate and timely energy use and emissions metrics, rather than waiting for year-end reports, and disclose progress to the public. Empowered with insights from this granular data, Rhode Island will be well-positioned for competitive financing, able to substantiate grant proposals, and ready to maximize federal funding benefits.

11 What other modeling factors and considerations should be considered for the 2025 Climate Action Strategy?

Given the important intersection between resilience and decarbonization, we recommend that EC4 consider resilience as part of its modeling factors and considerations, in alignment with the Resilient Rhody. Specifically, as the state starts to assess and design abatement projects, considering whether an abatement project also increases resilience, and by how much, could inform investment decisions.

Our Experience

Deloitte has worked with multiple private sector companies to scenario plan, forecast, and model emissions to inform and help implement decarbonization efforts across Scope 1, 2, and 3 emissions. Deloitte is partnering with nZero, a software and data analytics company which has implemented its carbon accounting and management platform with state and local governments and in industry to track and measure hourly energy usage and emissions in support of accessing the necessary data to inform targeted energy cost reduction and decarbonization strategies.

3.0 Analyses

Climate change impacts LIDACs more acutely than other communities, which has become increasingly apparent in recent years. Accounting for this in EC4's climate planning will set the stage for success with Rhode Island's long-term strategy. One complex piece of addressing inequity is the need to build solutions that prioritize the underserved, which will allow agency programs to drive equitable outcomes.

Additionally, meeting workforce capacity and capability demands are critical to successful Strategy implementation. The administrative burden of measuring, reporting, and implementing decarbonization solutions across the State of Rhode Island is high. With the rapidly evolving nature of climate change as well as with community needs, the State needs to create intentional pathways to meet the associated challenges. Robust workforce analyses to inform the 2025 Climate Action Strategy including strategies to engage those underrepresented in the energy workforce and help Rhode Island holistically address climate action and its impacts on state communities and the workforce.

12 Do you have any suggestions or considerations for any of the five analyses listed above?

Rhode Island's EC4 will need to take a multidisciplinary approach to identify LIDACs and determine how decarbonization measures can be designed to both reduce statewide emissions *and* address historic inequities. To prepare for such analyses, some considerations include: creating a

Identifying LIDAC Communities

Deloitte proprietary AI Analytics tool **HealthPrism** uses U.S. household information across thousands of demographic identifiers to identify specific demographic populations, including LIDACs. By leveraging the power of AI and analytics, **state governments have engaged and targeted benefits at previously untracked populations who need them the most.**

definition for disadvantaged communities and identifying them across the state (EC4 can consider leveraging the CEQ Climate & Economic Justice Screening Tool (CEJST) for this effort or developing a custom geospatial disadvantaged index leveraging Rhode Island data to better reflect residents' lived experience), collaborating with LIDACs to identify benefits and harms of decarbonization measures, and developing an evidence-based approach to track, measure, and report impacts over time.

To identify and analyze impacts to LIDACs, EC4 can leverage EPA's *CPRG: Technical Reference Document for States, Municipalities and Air Pollution Control Agencies Benefits Analyses of LIDACs* which provides recommendations for potential benefits to consider (we've outlined our recommended benefits for consideration in our response to Question #13). Once the potential benefits and disbenefits are identified, EC4 can apply modeling and scenario planning methods to estimate how (and by how much) the proposed decarbonization measures will benefit LIDACs (e.g., number of jobs created in LIDAC communities, or improved air quality due to lower emissions). This benefit analysis can then inform how the EC4 organizes programs and policies to maximize recognized benefits and mitigate potential harms. The EC4 should continue to engage community stakeholders as programs and policy decisions proceed to verify actionable strategies against LIDAC priorities. Recognized benefits also need to be measurable, so measurement of progress against those projected benefits is possible. Adopting a continuous improvement mindset, allowing for the comparison of projected benefits to those actually accrued by communities will guide continuous course correction as the Strategy progresses.

Further, to analyze and prepare the state's workforce to address climate change, EC4 can consider both the *demand* side, what is required of the work from a skills perspective and where the greatest gaps are; and the *supply* side, who is qualified, available, and interested in quality jobs today and in the future. With robust analyses of both the demand and supply side, EC4 can design a climate action strategy that mitigates climate change and supports quality job creation through attracting and retaining workers, skill development and credentialing, and fair compensation across the state. The State should understand the skills employers need now and in the future by incorporating future planning with Governor McKee's Learn365 RI educational priorities, which we view as an opportunity to build the right skilled workforce with K-12 education levels. It is also key to prioritize critical jobs across industries and build career pathways to those jobs as a pillar towards addressing climate change.

The Decarbonized Power Workforce

In **Decarbonized Power Workforce**, Deloitte authors find that the US power sector by 2035 could entail both unprecedented workforce growth and the elimination of entire workforce segments. Job growth is expected to mostly stem from the buildout of solar and wind generation sources of energy. Renewables job growth could help compensate for fossil fuel industry losses and provide longer-term employment and a better skills and wages match.

13 The benefits analysis will include an examination of co-pollutants (including, NOx, SO2, PM2.5, VOCs, air toxics). What other types of benefits would you like to see included in this analysis?

In addition to the co-pollutants listed above, EC4 might also consider economic benefits (e.g., total quality jobs created, quality jobs created in disadvantaged communities, reduced energy costs, decreased operation and maintenance costs, workforce development pipelines created, increased small business procurement, and increased access to capital for LIDAC projects); energy benefits (e.g., improved access to commercially ready clean energy technologies, the potential for local cooperative ownership of clean energy generation, and improved energy resilience); environmental benefits (e.g., improved outdoor air quality, reduced greenhouse gas

emissions, improved indoor air quality, increased access to greenspace, and improved indoor occupant comfort), and health co-benefits (e.g., reduced respiratory illness due to poor environmental quality). These additional benefits, among others, can be realized with successful implementation of carbon reduction measures.

14 Would you like to see any additional analyses conducted, and if so, why?

We recommend including a climate risk analysis. A climate risk analysis would analyze Rhode Island's geography and infrastructure to identify any areas where resilience measures would need to be amplified to protect Rhode Island's communities against potential extreme climate events (e.g. coastal or inland flooding, extreme heat, etc.). Additionally, assessing the vulnerability of critical infrastructure, such as transportation networks and water management facilities, is crucial to ensuring their resilience in the face of extreme climate events. The analysis might also consider the socioeconomic factors associated with extreme climate events, addressing the impact on LIDACs those with and socioeconomic disparities. By understanding these risks, EC4 can develop targeted strategies and allocate resources effectively to enhance resilience and protect communities and the economy of Rhode Island, while reducing emissions.

Another suggested analysis includes evaluating funding opportunities, particularly the Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA). This analysis may include cross walking the projects identified in the Strategy to federal funds, to ensure alignment between Rhode Island's climate goals and projects and the available funding. It would also allow for identification of strategic funding sources beyond the Strategy through exploration of the combination of federal and state funds for maximum leverage.

Additionally, Deloitte suggests an analysis of best practices on integrating public-private partnerships (PPPs) into the Strategy. Conducting a thorough analysis of such integration is crucial for several reasons. First, by engaging in PPPs, EC4 can leverage the expertise, resources, and innovation of both the public and private sectors, fostering collaborative solutions to address climate challenges more effectively. This approach enables shared responsibilities, allowing governments, businesses, and civil society to pool their efforts, knowledge, and funding for maximum impact. Second, an analysis of PPP integration would help identify potential risks and opportunities within the plan. It would allow EC4 to assess the compatibility of their goals, strategies, and values with prospective partners, ensuring alignment and reducing the likelihood of conflicts or inefficiencies. Furthermore, conducting this analysis would enable evaluation of the legal, financial, and operational implications of various potential PPPs, including considerations of governance, accountability, and risk management. By undertaking a comprehensive assessment, EC4 would be primed to make informed decisions about the integration of PPPs into their Strategy, unlocking the potential for transformative and sustainable outcomes. The analysis would not only enhance the overall effectiveness of climate measures, but also foster collaboration, innovation, and resilience.

15 Are there any specific stakeholder groups you would like to see engaged in any of the analyses?

To inform the workforce analyses we recommend engaging with industry representatives and employers from Rhode Island's main industries, labor unions, trade associations, governmental workforce agencies, state and local workforce development boards, non-profit community groups engaged in employment, and educational institutions including universities, community colleges, and trade schools.

To inform the LIDAC benefits analyses we recommend engaging with local governments, community representatives, community-based organizations and other non-profits focused on LIDACs, faith-based organizations, community organizers and other community influencers, and businesses. LIDACs themselves know best the barriers they face and can identify and down-select solutions that can address those challenges. Non-profit organizations who work in disadvantaged communities can provide valuable insights into the needs of these communities, while government agencies often have data and resources that can be used to define disadvantaged communities. Community engagement provides valuable insights and qualitative data on lived experience to ground truth state and federal quantitative data sets. Lastly, businesses can play a role in supporting disadvantaged communities by providing on-ramps to quality jobs especially to support underrepresented populations, investing in local businesses, and supporting community development initiatives, and thus should be engaged from the start of the process. By engaging with employers through the workforce planning analysis, Rhode Island should look to develop public-private partnerships or workgroups that help them play an active role in key decisions and collectively address climate change.

By engaging a variety of stakeholders in both of the analyses outlined above, a variety of benefits will emerge. These include: improved decision-making, increased trust and buy-in, and improved communication. When stakeholders are involved in the analysis process and their voices are able to influence the design and implementation of the Strategy, they are more likely to buy into the recommendations that are made. By involving stakeholders in the analysis, EC4 can improve communication between different groups and build trust and collaboration, which are essential for successful planning and program implementation.

Our Experience

Deloitte has recently supported multiple government agencies in designing and implementing climate and energy programming in alignment with the White House's Justice40 initiative, including helping agencies to define LIDACs and develop and validate burden and benefit measurements and methodologies. Through this, Deloitte supported the development of a scalable data visualization tool to support engagement, reporting, and utilization of data. Additionally, Deloitte has supported numerous state agencies as they navigate workforce challenges and helped them optimize workforce readiness through key activities, including reviewing workforce demand and supply, evaluating the current and future workforce landscape, gathering qualitative data through focus groups or surveys, and developing recommendations.

4.0 Preparation of the Final Report

We understand the 2025 Strategy is being guided by EPA's CPRG requirements and that to be in compliance with those requirements the state of Rhode Island must release a priority climate action plan in 2024, followed by a comprehensive climate action plan two years after receiving the funding. A robust and mature 2025 Strategy will also set Rhode Island up well to apply for the follow-on competitive funding to invest in programs and projects to achieve the state's climate goals.

16 Do you have any suggestions for how to best design and craft the 2025 Climate Action Strategy's final report?

Given the EPA's CPRG requirements, we would recommend that the 2025 Strategy is in compliance with the comprehensive climate action plan requirements (and not just the priority climate action plan) so that EC4 only has to go through the effort of developing and publishing a

plan, and garnering buy-in once. Including an evaluation of how the Strategy implementation will deliver co-pollutant emissions reductions and other benefits to LIDACs and specific projects and activities that the state can execute to achieve the Strategy's goals, objectives, and outcomes would be beneficial to outlining a very clear roadmap for success and would enable compliance with CPRG. We would also recommend that the state government collaborate with the Providence-Warwick metro area that also applied for the CPRG funding to coordinate on goals and implementation plans to build scale and alignment across the broader region.

17 How would you like to see the results of the 2025 Climate Action Strategy shared with the public and various groups, beyond just the release of the final report?

If EC4 engages heavily with the public during the design of the Strategy, we recommend maintaining that level of engagement during the release and implementation of the Strategy. A communications plan, outlining the communication and engagement methods for the design and publication of the Strategy (including public forums, multi-media versions of the document, and a summarized version of the report in a simple narrative format with visuals that is easy to understand) will set EC4 up for success in rolling out the final report.

To maintain engagement throughout the implementation, it would be beneficial to establish monitoring and evaluation processes before the Strategy is finalized to identify key performance indicators and outcome measures (and the data needed to measure those) to measure success. Reporting on progress, impact, and challenges via the CPRG required status reports on a quarterly to semi-annual basis will be key to EC4 maintaining transparency in implementation and keeping the public and key stakeholders engaged. And, in alignment with Rhode Island's 2021 Act on Climate, we also recommend Rhode Island launch an online public dashboard that monitors and provides transparency on state emissions, the sources of those emissions, and displays progress towards meeting the Strategy's established measures. This dashboard can allow communities to track progress and actively engage in the state's decarbonization journey.

EC4 can also consider leveraging sensing tools for ongoing sentiment measurements of the public on their reactions to the plan and plan updates. This data could inform strategies to mitigate mis/disinformation related to climate change and related action in the state.

Our Experience

As a leading consulting firm in strategy, we have significant experience supporting government and public sector clients to develop strategic plans and reports in a manner that is future-forward and innovative, but also clear and achievable.

5.0 Corporate Qualification Statement

With more than 156,400 employees and $27.9 billion in annual revenues in fiscal year 2022, Deloitte (including its subsidiaries) is the largest private professional services provider in the United States (Accounting Today Top 100). Deloitte Touche Tohmatsu Limited (DTTL) - of which Deloitte LLP is the US member firm - is the largest private professional services network in the world, recording revenues of $59.3 billion in fiscal year 2022. Deloitte's Government & Public Services consulting practice is comprised of a team of over 20,000+ professionals who bring fresh perspective to help you anticipate disruption, reimagine the possible, and fulfill your mission

The Deloitte Difference
✓ #17 "100 Best Companies to Work for in 2023." 24th consecutive year of recognition *(Fortune Magazine)*
✓ Several consecutive awards for workplace inclusion (*Forbes, Fortune, Glassdoor, Gartner)*
✓ #19 on 100 Companies that Care in 2022 *(PEOPLE)*

promise. We approach our work with a collaborative mindset, teaming across businesses, geographies, and skill sets to deliver tangible, measurable, and attributable impact.

At Deloitte we recognize that addressing the impacts of climate change and social inequity is a time-sensitive imperative. In FY2020, Deloitte formulated its internal climate action strategy, World*Climate*, to focus our organization on making responsible climate change choices and serve as a trailblazer for others. Our strategy is driven by 4 pillars; (1) achieving net-zero greenhouse gas emissions internally by 2030; (2) aligning Deloitte's policies, practices, and actions with the organization's internal climate ambitions; (3) educating and inspiring Deloitte people to act on climate change; and (4) engaging with ecosystems to drive collective action. In addition, we recently published our **2022 Global Impact Report**, providing increased transparency into our environmental, social, and governance actions and goals.

For over 20 years, Deloitte has helped government organizations develop strategies to address sustainability, climate, and equity challenges, and design, implement and operate solutions to deliver meaningful results - **leveraging data analytics, innovative approaches, and assets and technology to accelerate outcomes and drive impact**. We implement **thoughtful, strategic, and human-centered solutions** fueled by technology and our unique capabilities that enable federal, state, and local governments and organizations to: (1) **Mitigate climate change by designing and implementing strategies that reduce emissions**, decrease negative environmental impacts, and enable the energy transition; (2) **Activate equity** within and beyond public sector organizations; (3) Build and manage **responsible value chains**; (4) Monitor and **manage natural resources**; (5) Navigate the challenge of **aging and changing infrastructure** through strengthened operational resilience and new paths to net zero. Our capabilities span across several key areas – including Inflation Reduction Act (IRA) and Infrastructure Investment and Jobs Act (IIJA) program design and implementation, Greenhouse Gas (GHG) Emissions Accounting & Management, Resilience, & Water Management. Alongside our climate specific capabilities and focus areas, Deloitte is experienced in strategy, innovation and digital transformation, AI and analytics, program/grants management, and operational and workforce planning.

Deloitte's 7 Lessons for Building Climate – Forward Government

Deloitte has studied the newer emphasis on climate change and examined effective climate actions within the political landscape to create a consolidated list of **7 Lessons for Building Climate-Forward Government**. Our purpose is to help government agencies develop effective approaches to climate issues, and combat climate change.

One of Deloitte's strategic relationships in the climate change space is with nZero, a leading market player in carbon accounting and management. nZero is a software company that has developed a platform which automates the ingestion of energy, Scope 1, 2, and 3 emissions, water usage and associated financial data, capturing from all sources at the highest granularity available to provide a single dashboard for real-time operational and emissions data. Utilizing hourly emissions factors, nZero enables greater insights to pinpoint opportunities for emissions reductions. nZero's platform is built to maximize accuracy, transparency, and accessibility. Their platform and public portal allows clients to take tangible steps to lower their carbon impact & reach net zero, make data-driven operational & financial decisions, meet the increasing demands for ongoing & transparent reporting, drive climate action & accountability, and accurately & confidently share their emissions story with the public. The platform and the emissions data it produces is foundational to helping our government clients make data-driven decisions and deliver innovative and thorough climate action strategies.

Through innovative approaches, digital solutions, deep industry experience, and lessons learned from our own journey, Deloitte works with governments at all levels to take climate action and build a more sustainable and equitable world. Our solutions are designed to help translate evolving and complex knowns and unknowns into impactful climate outcomes for the public sector and the communities and constituents we serve.

Brattle Response

2025 CLIMATE ACTION STRATEGY - REQUEST FOR INFORMATION

PREPARED BY

The Brattle Group, Inc.

PREPARED FOR

The Rhode Island Executive Climate Change Coordinating Council

JUNE 14, 2023

Brattle

Question 11

What other modeling factors and considerations should be considered for the 2025 Climate Action Strategy?

In modeling GHG reductions scenarios, to accurately project GHG reductions and the policies needed to achieve them, two important considerations are:

1) How policies, incentives, etc. are translated into clean technology adoption, and

2) How clean technology adoption maps into reductions in fossil fuel use.

Both of these factors may cause a model to overstate the GHG reductions that are available, and thus understate the urgency and extent of the actions necessary to achieve long run emissions reductions. These are discussed in turn.

1. It is not generally feasible to adopt a policy that directly specifies and controls technology adoption (e.g., achieving 15% heat pump adoption by 2030 is a goal, not a policy, as the 2022 Update acknowledges). Rather, policies are typically indirect (e.g., rebates for heat pump adoption, or a program to install public EV charging stations), and they are intended to influence consumer decisions and actions. As such, modeling the effects of such policies relies on assumptions about how particular policies or incentives will affect consumer adoption of the relevant technologies. Such assumptions are sometimes untested, and often optimistic (in fact, decarbonization pathway modeling often skips over a characterization of policies and how they influence behavior, and just assumes adoption trajectories for various technologies). This approach can overlook or understate the effects of a variety of barriers that may impede rapid, widespread clean technology adoption, even if "on paper," proposed policies may appear to make adoption attractive.

    a. For example, levelized cost comparisons of electric heat pumps vs gas or oil heating may suggest that with a particular level of rebate, a heat pump conversion becomes economically attractive, and thus that building owners will adopt heat pumps quickly when offered such a rebate program. But this can ignore other factors that can limit heat pump adoption rates, like:

        i. The idiosyncrasies of individual buildings – some may be more difficult to convert, e.g., due to structural issues that complicate adding ductwork or locating heat pump

heads. This can increase costs or make a conversion impractical without additional work and cost.

ii. The inconvenience and disruption of converting to heat pumps (as compared with replacing a furnace or boiler, which is straightforward and contained); this may discourage/delay adoption, even if it is actually economic.

iii. Financing challenges – many building owners do not have access to financing that may be necessary to convert to heat pumps, even if the economics are good (and especially if they are not obvious).

iv. A lack of consumer (and even installer) information or confidence regarding heat pump performance and operating cost can also discourage adoption, even if a heat pump (with rebate) appears to be economic.

v. Simple inertia can slow adoption, even if other barriers can be overcome. E.g., "I know it's a good idea, but I've got too much else going on right now, and my gas furnace is working fine. I'll get to it at some point."

vi. Over time, adoption rates may drop off as conversions are already done for those buildings/owners that are easy to convert, motivated, environmentally conscious, well-informed, have financing, etc., who did not face the barriers above or were able to overcome them. Remaining buildings/owners may be relatively more resistant to conversion.

Many decarbonization pathways studies simply identify combinations of technology adoption trajectories (for heat pumps, EVs, renewable generation) that together are sufficient to achieve decarbonization targets. They may not seriously consider what policies would be required to achieve those adoption rates (or alternatively, what adoption rates would result from a specified set of policies). This can lead to overly optimistic pathways that would be quite difficult to achieve in practice. Put another way, it may underestimate the level and strength of policy interventions necessary to achieve the modeled adoption rates.

2. Pathways studies must rely on assumptions about how clean technology adoption will reduce fossil fuel use, but these assumptions can be optimistic if they do not adequately consider real-world factors influencing consumer behavior. A few examples:

   a. EVs: Each new EV on the road may not displace an average number of VMT. Utilization may differ, since EVs may be less likely to be used for long trips (e.g., in a household

with multiple vehicles), and EVs may be less likely to be adopted by consumers with above-average driving mileage, since they are likely more exposed to range anxiety issues.

b. Heat pump installation will not necessarily eliminate fossil usage for heating, and may displace less than anticipated. Many heat pump installations are partial rather than whole-home. Even when this is acknowledged in the pathways analysis, the extent to which the heat pump is actually relied on for heating (rather than the fossil furnace/boiler that remains) will depend on how well the heat pump and the conventional system are able to coordinate (often not well), and how the user actually manages them (often not well informed). Many "whole home" heat pump conversions do not actually remove the fossil system, which may be utilized either if the heat pump is not fully effective, or just if the user is unfamiliar with how to use it well.

c. Heat pump system design and installation may be poor, leading to less effective heating and thus greater fuel use and greater electricity use.

d. Refrigerant leaks from heat pumps are not generally considered, despite that most current heat pumps use refrigerants with extremely high GWP.

Together, these factors can lead to a model of decarbonization that overestimates the actual GHG reductions that may be achieved.