



RI Office of Energy Resources Annual Report 2019



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Letter from the Commissioner

To the Honorable Gina M. Raimondo, Governor of the State of Rhode Island
Honorable Dominick J. Ruggiero, President of the Rhode Island Senate
Honorable Nicholas A. Mattiello, Speaker of the Rhode Island House of Representatives

In accordance with the provisions of Rhode Island General Laws §39-2-1.2(k), I am pleased to provide you with the 2019 Annual Performance and Financial Report of the Office of Energy Resources (OER).

Thanks to your leadership, Rhode Island continues to enhance its status as a dynamic national leader on innovative clean energy programs that are growing jobs, creating new investment opportunities, reducing energy costs for Ocean State families and businesses, shrinking carbon footprints, and ensuring a more reliable and sustainable energy system. OER is pleased to report significant progress in the state's ongoing efforts to achieve a clean, affordable, and reliable energy future. Notable accomplishments over the past year include:



- Continued national recognition for Rhode Island's cost-effective **Energy Efficiency and Least Cost Procurement Programs**, which were ranked third in the nation for the third consecutive year. These programs have proven to reduce energy costs for local consumers while helping to support 6 out of 10 clean energy jobs in the state;
- By the end of 2019, Rhode Island achieved over 80 percent of Governor Raimondo's **1000 MW Clean Energy Goal**, and is on track to expand the state's clean energy portfolio ten-fold by the end of 2020;
- Approval of the **400 MW Revolution Wind offshore wind farm**, which is projected to meet one-quarter of the state's electricity demand with carbon-free energy by 2024 and spur the creation of 800+ construction jobs, 50 permanent jobs, and \$250 million of investment in the local economy, among other benefits;
- The opening of Rhode Island's first community solar project under the **Community Remote Net Metering Pilot** program, which makes solar power accessible to homeowners and renters without requiring them to install solar panels themselves;
- The successful launch of **Electrify RI**, an electric vehicle (EV) charging station incentive program that seeks to make more charging stations accessible to Rhode Island drivers;
- Continued successful implementation of the **Governor's "Lead by Example" Executive Order**, including the replacement of state-owned streetlights with energy efficiency LEDs and management of market-competitive procurements that secure stable energy pricing for government agencies; and
- The announcement of a **Heating Sector Transformation initiative**, as called for by Governor Raimondo's Executive Order 19-06, to develop clean, affordable, and reliable pathways to heat Ocean State homes and businesses in a decarbonized economy.

The results of our collective efforts are clear. As demonstrated by a recent Clean Energy Jobs Report commissioned by OER and Commerce RI, Rhode Island's clean energy sector is now more than 16,000 jobs strong. Since 2014, clean energy employment in the Ocean State has increased by an impressive 74 percent. As our burgeoning clean energy industry achieves new milestones, such as the nation's first offshore wind farm, and policymakers lend continued support for clean energy policies, Rhode Island's clean energy sector will continue to accelerate job and investment growth. OER is also working to ensure that the many benefits of clean energy growth extend to low-to-moderate income households and frontline communities, too.

These on-going efforts serve as a strong foundation to grow our economy and achieve a secure, cost-effective, and sustainable energy future. However, we know that more can be accomplished. OER is committed to working across the Administration and with the General Assembly to implement sound strategies that are aligned with achievement of long-term environmental goals, while acknowledging the short- and mid-term realities facing our economy and energy system.

As OER continues our work in the coming year and beyond, I look forward to building on progress to date and partnering closely with you to advance our state's energy, economic, and environmental goals. Please do not hesitate to contact me should you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'NSU', is positioned above the printed name of the Commissioner.

Nicholas S. Ucci
Commissioner

About the Rhode Island Office of Energy Resources

The Rhode Island Office of Energy Resources (OER) is the state’s lead energy policy agency established pursuant to Rhode Island General Laws (RIGL) § 42-140. OER’s mission is to lead Rhode Island to a secure, cost-effective, and sustainable energy future. Housed within the Executive Branch, OER is led by the Commissioner of Energy Resources – Nicholas S. Ucci – and a staff of committed professionals dedicated to advancing the energy, economic, and environmental interests of the Ocean State.

Operating at the nexus of the many on-going efforts to grow and transform Rhode Island’s energy system, OER core functions include, but are not limited to:

Developing, administering, monitoring programs that promote energy efficiency, renewable energy, alternative fuels, and energy assurance

Offering technical assistance and funding opportunities for end-users including residents, businesses, and public sector entities

Providing policy expertise and support related to strategic energy planning, energy assurance, and clean energy workforce development

Leveraging, coordinating, and aligning inter-agency, public-private regional, and federal efforts to reach and exceed state energy goals

To create consistent and unified energy policies, OER works with state and quasi-state agencies; stakeholder-driven groups (including the Distributed Generation Board and the Energy Efficiency and Resource Management Council); regional coordinating bodies; and other private and non-profit stakeholders to advance shared energy and environmental interests.

Appendix A lists OER’s responsibilities under the Rhode Island Energy Resources Act. To learn more about OER, please visit our website: www.energy.ri.gov. Appendix B provides a financial summary of OER’s funding through the System Benefits Charge and associated staffing, responsibilities, and duties. Appendix C offers a summary of implementation progress on the 20 strategies recommended by the State Energy Plan. Appendix D provides an overview of investments under the Regional Greenhouse Gas Initiative Annual Report.



Executive Summary

Two thousand and nineteen marked a year of significant achievement across Rhode Island's energy landscape, while presenting new opportunities to further reduce energy consumption and costs; expand cost-competitive clean energy solutions; and collaborate with other New England states to advance shared energy, economic, and environmental interests.

Strong and sustained support for comprehensive energy efficiency and renewable energy policies by Governor Gina M. Raimondo and the Rhode Island General Assembly have stimulated a robust market for clean energy goods and services, making Rhode Island home to a growing clean energy sector. In June 2019, OER released its fifth annual **Clean Energy Industry Report**, which found that clean energy employment in the Ocean State has increased by an impressive 74 percent since 2014. Clean energy jobs now support more than 16,000 workers across the state.

In 2019, OER continued to advance Rhode Island as a national energy efficiency leader and innovator. The state was ranked third in the country, for the third consecutive year, for its **nationally recognized energy efficiency and least cost procurement programs**, achieving savings of 2.75% of electricity consumption and 1.21% of natural gas consumption, respectively. These cost-effective, carbon-free investments are expected to produce more than \$270 million in

economic benefits for the state. Moreover, these programs are a key economic development driver, supporting six-in-ten clean energy workers across the Ocean State. OER and the Rhode Island Infrastructure Bank (RIIB) continued to jointly administer the **Efficient Buildings Fund (EBF)**, which has funded \$31 million in comprehensive energy efficiency and renewable energy projects for local governmental units since its inception. Additionally, innovative energy efficiency work spearheaded by OER included efforts to advance building energy labeling, high performance buildings, and provision of energy efficiency services to underserved sectors and communities. OER has also worked closely with Pascoag Utility District and the Block Island Utility District to expand energy-saving measures to those communities outside of the National Grid footprint.

The past year also marked major milestones for the state's renewable energy sector. Significant progress was made toward achieving Governor Raimondo's call for a ten-fold increase in our renewable energy portfolio by 2020. In particular, the **1,000 MW of Clean Energy by 2020** strategic goal was advanced through approval of a **new 400 MW offshore wind farm – Revolution Wind**. This project will create hundreds of jobs and invest millions in our local ports and economy, while producing enough carbon-free energy to power half the homes in our state. Moreover,

the ongoing implementation of the **Renewable Energy Growth Program**, enacted by the General Assembly in 2014, has resulted in the approval of more than 3,935 small solar projects to homeowners across the state; forty medium, commercial, and large solar projects in the 2019 Program Year; and one commercial-scale wind turbine. For the first time, a community solar project began subscribing customers to begin receiving benefits in the form of credits towards their electricity bill. There are nineteen more community solar projects currently under development, which will further link Rhode Islanders to the many benefits of our clean energy economy.

The past year also saw a continuation of OER's work to reduce public sector energy costs. Per Governor Raimondo's 2015 Executive Order 15-17, State agencies continue to **"Lead by Example"** in reducing utility costs (and carbon footprints) through the adoption of cost-effective energy efficiency and other clean energy measures. This includes supporting the retrofit of State and municipal streetlights to LED technology and competitive electricity and natural gas supply procurements to secure stable and cost-competitive rates for public sector entities.

OER has also supported several important initiatives and programs to advance clean energy strategies in the state's heating and transportation sectors. In July 2019, Governor Raimondo launched a Heating Sector Transformation initiative (Executive Order 19-06) and called upon OER and the Division of Public Utilities & Carriers (DPUC) to identify the economic, energy, and environmental opportunities and challenges posed by a decarbonized heating future. In addition, OER launched Electrify RI, an electric vehicle (EV) charging station incentive program that seeks to make more charging stations accessible to Rhode Island drivers. The increased availability of charging stations will encourage state residents and businesses to make the switch to electric vehicles in order to reduce transportation-related carbon emissions and pollutants.

OER looks forward to continuing its work on behalf of the Administration, in collaboration with the General Assembly and other key stakeholders, to advance Rhode Island's energy, economic, and environmental priorities and maintain Rhode Island's position as a national clean energy leader.



Clean Energy Jobs

Rhode Island continues to show impressive job growth in the clean energy sector, as detailed in the 2019 Rhode Island Clean Energy Jobs Report. Now more than **16,021 jobs strong**, Rhode Island’s clean energy economy continues to expand. Since 2014, clean energy employment in the Ocean State has increased by an impressive 74 percent.

For more information on the Clean Energy Jobs Report, please visit: www.energy.ri.gov/cleanjobs/.

Clean Energy Internship Pilot Program

The Rhode Island **Clean Energy Summer Internship program pilot** launched in early 2019. A collaboration between OER and Commerce RI’s Renewable Energy Fund (REF), this program matches college student applicants with clean energy host companies around the Ocean State for a 12-week paid internship. Funds to reimburse the participating host companies came from the Renewable Energy Fund. This internship program was created with a goal of linking Rhode Island students to careers in the burgeoning clean energy sector.

The pilot program matched seven students with six host companies.

There were 27 student applicants (college freshmen through senior-year students) with backgrounds including mechanical engineering, environmental science, computer science, political science, and environmental and natural resource economics. To apply, students had to be enrolled in a college or university in Rhode Island or demonstrate proof of Rhode Island residency.

The program attracted 13 company applicants including engineering firms, solar companies and consulting agencies. To apply, companies had to be licensed to do business in the state and have at least one office in Rhode Island.

Overall, OER found the program to be quite successful. Feedback received from company surveys illustrated that each host was extremely pleased with their intern(s) and the program in general. Two out of seven interns were hired to stay on with their host company.

Additional funding has been identified to continue this program in 2020 and expand the offering to up to 20 students.

For more information on the Clean Energy Internship Program, please visit: www.commerceri.com/financing/renewable-energy-fund/.

2019 Rhode Island Clean Energy Jobs *At-A-Glance*

16,021

Clean Energy Jobs

74%

Growth in clean energy workforce since 2014

Largest Growth Sector:
Renewable & efficient heating and cooling added 134 jobs



Workers are becoming specialized, spending more time on clean energy tasks

Public-private partnerships are increasing clean energy jobs training opportunities





Energy Efficiency

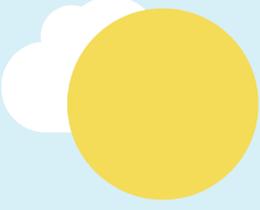
Rhode Island is a nationally-recognized leader in energy efficiency and was ranked the third most energy-efficient state in the country in 2018 and 2019 – just behind California and Massachusetts. The state’s commitment to energy efficiency not only saves customers money, but drives significant economic activity and job growth – in 2018, over 800 Rhode Island-based businesses were involved in Rhode Island’s energy efficiency programs. Throughout 2018 and 2019, OER continued efforts to advance the state’s leadership in energy efficiency by promoting access to energy efficiency in underserved sectors and communities, collaborating on leading-edge program evaluations, and supporting efforts to transform Rhode Island’s existing building stock and new building market.

Least-cost Procurement Energy Efficiency Programs

Energy efficiency is the installation of technologies or practices that use less energy to achieve the same or better outcome. By reducing our energy demand in Rhode Island, energy efficiency is reducing pollution, saving us all money, and helping to decrease state-wide greenhouse gas emissions. In addition, many energy efficiency jobs are local which means investments in efficiency are also supporting Rhode Island’s clean energy economy.

In 2018 and 2019, OER supported energy efficiency efforts by supporting a program to encourage the use of air source heat pumps and other energy efficiency measures in conjunction with solar PV in affordable housing units (project selection was completed at the end of 2019). OER also supported the expansion of energy efficiency programs in the Pascoag and Block Island Utility Districts by providing financial and technical support. In both utility districts, Regional Greenhouse Gas Initiative (RGGI) dollars are being leveraged with ratepayer funds to extend the benefits of cost-effective energy efficiency measures to local families and businesses.

For other parts of the state, energy efficiency programs are funded by System Benefit Charge (SBC) dollars collected from National Grid ratepayers. In 2018, Rhode Island’s energy efficiency programs helped ratepayers save 206,209 annual megawatt-hours (MWh) of electricity (2.75% of 2015 electric consumption) and 497,119 annual million Btu (MMBtu) of natural gas (1.21% of 2015 natural gas consumption), producing over \$270 million in utility bill savings over the lifetime of the measures installed. For more information on the state’s energy efficiency programs, please visit: www.rieermc.ri.gov.



Benefits of Energy Efficiency in Rhode Island



Driving the **local economy** by adding \$74.4 million to Rhode Island's Gross State Product in 2018



Prevented 3.6 million short tons of greenhouse gas emissions from 2010-2018

Equivalent to taking over 1 million passenger cars off the road *for one year*



Saved over \$1 billion on utility bills from 2010-2018

Energy efficiency helps keep costs down to maintain grid infrastructure, and keeps rates down for all Rhode Islanders



Supporting over **9,000 local jobs**

In 2018, over 800 Rhode Island based businesses were involved in the energy efficiency programs

Efficient Buildings Fund

The Efficient Buildings Fund (EBF) is established under Rhode Island General Laws, Chapter 46-12.2-4.2 and was launched in December 2015. EBF is jointly administered by OER and the Rhode Island Infrastructure Bank (RIIB). The fund provides financing to municipalities, schools, and quasi-governmental agencies pursuing cost-effective energy efficiency and/or renewable energy projects. The program prioritizes deep energy savings projects where the total energy savings achieved by a project exceeds the total project and debt service costs. OER is primarily responsible for soliciting, scoring and ranking applications to create a Project Priority List, which RIIB uses to prioritize borrowers for financing. Since its inception, the EBF has funded \$31 million in comprehensive energy efficiency and renewable energy projects.

RIIB and OER have partnered with National Grid to provide no-cost energy audits to municipalities interested in understanding opportunities to make investments in energy efficiency at public buildings. National Grid is also able to provide support to borrowers through assistance with the issuance of RFPs for their energy efficiency projects. EBF has funded 45 projects, including deep energy retrofits of municipal and school buildings, LED streetlight conversions, and renewable energy installations, across twelve municipalities. Significant savings can be attributed to energy savings from streetlight conversions. Many participating municipalities have used the streetlight savings to further invest in deep energy retrofit projects in their buildings.

In 2018, Rhode Island voters passed a large school construction bond which has led to increased interest from schools in utilizing EBF as a financing option for building improvement projects. OER has also expanded its Lead by Example initiative to include municipalities, which has led to increased outreach,

engagement, and greater awareness of EBF as a tool for financing their municipal energy efficiency projects.

For more information on the EBF, please visit: www.energy.ri.gov/RIEBF.

Farm Energy Efficiency Program

Recognizing the vital role that farmers play in our economic and environmental fabric, OER is working with National Grid to improve accessibility and delivery of cost-saving energy efficiency measures to Rhode Island farm owners. Farmers often rely heavily on delivered fuels and represent a hard-to-reach sector for standard energy efficiency programs.

The Farm Energy Efficiency Program offers Rhode Island agribusinesses incentives for prescriptive energy efficiency measures. Program participants receive a free on-site energy assessment and a report detailing recommended energy-efficient improvements. Owners can then choose to install any number of recommended electric or delivered fuels measures. Delivered fuels measures are eligible for incentives equal to 75% of their installed costs. Electric measure incentives vary depending on the application, but any approved electric measure cost not covered by an incentive can be paid back, interest free, through National Grid's on-bill repayment system. In 2018, twelve Rhode Island farms received no-cost, farm-specific energy assessments and, in 2019, an additional twelve farms received audits. Over the past two years, OER has developed a social media presence to better communicate and engage with farmers and has been developing a series of written and video interviews with participating farms to highlight their successes.

Working with the Department of Environmental Management, Commerce RI, National Grid, USDA Rural Development, and other organizations, OER

continues to streamline the ability for farmers to leverage the farm energy efficiency program with other farm-related programs and grants.

For more information on the Farm Energy Efficiency Program, please visit www.energy.ri.gov/policies-programs/programs-incentives/farms.php.

Pascoag Utility District Energy Efficiency Program

OER worked collaboratively with the Pascoag Utility District (PUD) throughout 2018 to more thoroughly understand the energy efficiency needs of, and opportunities in, the Pascoag community, and to develop strategies to enhance PUD's existing demand side management (DSM) programs and incentives.

OER has also allocated RGGI funding to support the development of a multi-year energy efficiency initiative in Pascoag. This support has expanded access to no-cost residential energy audits and weatherization

incentives within the community. PUD set a robust goal of conducting nearly ten times more no-cost residential energy audits in 2019 than it has historically and is on track to exceed that target. These audits are coupled with enhanced incentives for insulation, air sealing, and programmable thermostats. Together, the audits and weatherization incentives help Pascoag residents identify energy efficiency opportunities, reduce energy use and save money, and increase the comfort of their homes throughout the year.

PUD's 2019 DSM Plan also committed to strengthening the foundation for enhanced DSM programs and increased access to energy efficiency in future years. PUD hired a consultant with technical expertise to advise on program development and track program impacts. This allows PUD staff to optimize programs and incentive levels, and fully understand the impacts of their DSM offerings and tailor them to meet customer needs.

Lighting Upgrades at Pascoag Schools



To assist with the identified program enhancements, OER allocated proceeds from two rounds of funding from the Regional Greenhouse Gas Initiative (RGGI). Funding from the state's 2018-A RGGI Allocation Plan supported cost-effective LED lighting upgrades in three Pascoag schools. This project leveraged RGGI funding, PUD incentives, and funding from Burrillville School Department, and is saving local schools nearly \$28,000 annually.

Block Island Saves Energy Efficiency Program

Between 2015-2017, OER partnered with the Block Island Power Company to pilot an energy efficiency program for the residents and businesses of New Shoreham. The pilot program was designed to leverage best practices in program development and to align with existing programs available elsewhere in Rhode Island to deliver energy efficiency assessments, education, incentives, and rebates to New Shoreham residents and small businesses.

Over the course of the pilot, 79 residents and 31 businesses received free energy assessments, along with rebates and incentives for energy efficiency upgrades. These energy efficiency improvements will save 3,600 MWh of electricity over the lifetime of the improvements (equivalent to the electricity needed to power over 500 Rhode Island homes for one year), in addition to 4,800 MMBtu of oil and 2,300 MMBtu of propane. Participants were able to decrease their energy bills, too. In total, program participants are saving an aggregate \$597,968 (residential) and \$714,396 (business) over the lifetime of the efficiency upgrades.

Building on the success of the pilot program, the newly established Block Island Utility District (BIUD) is partnering with OER to develop a full-scale energy efficiency program to begin in 2020. As of January 2020, BIUD is in the process of seeking rate approval that, if granted by the Public Utilities Commission, will include a system-benefit charge to support and sustain new energy efficiency investments. OER has agreed to leverage BIUD funds with RGGI auction proceeds over the next three years to support this important clean energy initiative. As proposed, the energy efficiency program will maintain the no-cost energy assessments and direct install measures from the pilot and will also emphasize important cost-effective savings measures like weatherization,

efficient heating and cooling systems, and programmable thermostats. The goals of the efficiency program are to continue empowering customers to make clean energy decisions that lower their energy usage and costs, reduce energy burdens, and remain aligned with the nation-leading efficiency programming available elsewhere in Rhode Island.

The final report on the Block Island Saves Pilot Program is available on OER's [website](#).

Zero Energy and High-Performance Buildings

Zero-energy buildings generate as much energy as they consume over the course of a year. These buildings not only save owners money on utility costs, but also provide a myriad of benefits including improved comfort, increased durability, and better indoor air quality. These benefits have been shown to lead to improved health, education, and productivity outcomes for occupants of various building types.

The Rhode Island Zero-Energy Building Task Force issued a report at the end of 2016 outlining a 20-year roadmap for zero-energy buildings to contribute to the Energy 2035 goal of reducing greenhouse gas emissions by 45% by 2035. The roadmap identifies opportunities including stakeholder collaboration, incentives, education, financing and policies that will help to foster the growth of the residential and commercial Zero-Energy Building market in Rhode Island.

Building upon that report, OER convened a Zero-Energy Buildings working group. The mission of the working group is to bring together stakeholders and act to transform the market. Notably, the working group is currently concentrating on building out educational and informational events, such as tours and trainings, as well as serving as a focus group for incorporating zero-energy buildings into National

Grid's programs.

To help develop innovative, replicable solutions for the construction of Zero Energy Buildings (ZEBs), OER partnered with Rhode Island Housing in 2019 to launch the Zero Energy for the Ocean State (ZEOS) demonstration project. This pilot program offers a grant of up to \$250,000 to design and construct affordable, energy efficient ZEBs to serve low- and moderate-income Rhode Islanders. Developing demonstration projects for ZEBs was one of the recommendations from the 2016 whitepaper report and the ZEOS pilot was developed with input from stakeholders in the Zero-Energy Buildings working group.

OER is also a supporting partner in the City of Providence's RePowerPVD Challenge, their voluntary energy challenge program designed to help large buildings in the city conserve energy, save money, and gain recognition for their leadership in the race to become the first zero energy building in Providence.

For more information on Zero Energy Buildings, please visit www.energy.ri.gov/high-performance-buildings/index.php.

Achieving Community Efficiency (ACE) Grant Program

In 2019, OER received a grant award from the United States Department of Energy's Office of Energy Efficiency and Renewable Energy to engage small, medium, and rural (SMR) communities to increase energy affordability, reliability, and resiliency. The Achieving Community Efficiency (ACE) grant sets out to "meet communities where they are" by providing customized resources and assistance in pursuit of each participating communities specific energy needs. SMR communities face unique challenges in energy management stemming from resource, staff, and capacity constraints and this program seeks to address

those needs in three primary ways: first, to encourage and support building energy benchmarking efforts to make energy usage and cost information more accessible and actionable; second, to develop a sustainable model for employing a shared, on-site energy manager to provide technical assistance, program design and implementation, as well as energy usage tracking; and, finally, to develop and provide automated and customized resources on comprehensive energy efficiency best practices that help communities achieve their energy goals.

After soliciting interest from municipalities and school districts statewide, six entities were selected to be partner communities for the initial pilot program, consisting of three municipalities (North Providence, South Kingstown, Warren) and three school districts (Barrington, North Providence, Scituate). Throughout 2019, these partner entities met with OER and their project partner, Northeast Energy Efficiency Partnerships (NEEP), to discuss their unique energy challenges, share ideas and resources, and to develop the framework for the on-site shared energy manager position, who will begin working alongside them in 2020. The goal is to create a model of shared energy management that can be sustained after the grant award period and replicated in other SMR communities around the country.

To inform program development and provide additional resources, the ACE program is supported by a project advisory committee, comprised of subject matter experts from six states (Colorado, Connecticut, New Hampshire, New York, Pennsylvania, and Vermont) as well as project partners from the energy offices of Massachusetts and West Virginia.



Renewable Energy

Rhode Island is home to a rapidly growing renewable energy industry. Strong programs such as the Renewable Energy Growth Program and Community Solar are stimulating the deployment of wind and solar projects throughout the state. The promotion of renewable energy contributes to local business and job growth; offers residents, businesses, and communities an opportunity to stabilize energy costs; and helps shrink carbon footprints.

In 2019, OER led efforts to expand customer access to renewable energy, bolster industry and job growth, and support the market through targeted guidance and engagement.

Residential Guide to Going Solar

In 2018, OER published the Residential Guide to Going Solar. This document was created to help Rhode Island residents considering an investment in Solar PV navigate the process of going solar. You may find the resource here: www.energy.ri.gov/documents/solar/Guide-to-Going-Solar.pdf.

Community Solar

A community solar project is a large solar farm shared by more than one household. Its primary purpose is to allow members of a community the opportunity to share the benefits of solar power even if they cannot install solar panels on their roof or property. Program participants benefit from the electricity generated by the community solar farm, which costs less than the price they would ordinarily pay for electricity.

In 2019, for the first time, a community solar project began subscribing customers to begin receiving benefits in the form of electricity bill credits. There are 19 other community solar projects currently under development.



Deputy Commissioner Nicholas Ucci (second from left) helps cut the ribbon at the opening of the State's first community solar project in Burrillville.

Renewable Energy Fund - Brownfields Program

In early 2019, the Renewable Energy Fund, along with OER, implemented a new Brownfield Solar program, which was supported by state RGGI auction proceeds. By fall 2019, the program was fully subscribed. Eligible projects include solar PV located on brownfield locations utilizing net metering or virtual net metering. Costs associated with remediation of the project location are not eligible for funding as there are other programs available to assist with those costs. Eight projects for a total of more than 12 MWs received approval through this program. The projects are planned to be located in East Greenwich, Providence, Smithfield and South Kingstown. Based upon this success, OER has made additional RGGI funding available to continue the program in 2020.

Renewable Energy Growth Program

The Renewable Energy Growth (REG) Program was launched in June 2015 to support the deployment of locally based wind, solar, anaerobic digestion and small-scale hydropower projects.

The REG Program is administered by National Grid, with oversight by OER and the Distributed Generation Board, and provides 15- or 20-year tariff payments to finance renewable energy systems for homeowners, businesses and municipalities. In turn, the construction and operation of these new clean energy resources help reduce and stabilize consumer energy costs, create job opportunities for clean energy workers, and help offset demand for more carbon-intensive energy resources. In the first four years of program implementation, tariff payments were approved for more than 3,000 small solar projects to homeowners across the state; over sixty medium, commercial, and large solar projects; several commercial-scale wind turbines; and two small-scale hydropower projects.

For more information on the REG Program, please visit: www.energy.ri.gov/policies-programs/programs-incentives/reg-program.php.

Solar Siting Outreach and Technical Assistance

OER and the Division of Statewide Planning developed and released solar siting educational guidelines and information to municipalities in February 2019. This information was based upon extensive outreach meetings that occurred across the state between May 2018 and October 2018. Materials can be found at the following link: www.energy.ri.gov/renewable-energy/solar/model-ordinance.php.

In early 2019, OER began to provide eligible virtual net metering customers – including municipalities, federal government entities, public housing authorities, hospitals, non-profits, private and public schools and non-profits – technical assistance with preparing RFPs that included language encouraging projects to be developed in disturbed areas, where possible (e.g. gravel pits, landfills, quarries, brownfields) or commercial- and industrial-zoned lots. To date, several entities have reached out to OER for RFP assistance, including the Chariho Regional School District, Exeter-West Greenwich School District and RIPTA.



Lead by Example

Under Governor Raimondo’s Executive Order 15-17, State agencies will “Lead by Example” and transition energy supply portfolios and consumption practices toward lower-cost, cleaner, low-carbon solutions, consistent with Rhode Island’s economic, energy and environmental goals.

Among the Governor’s directives, OER has been tasked with overseeing and coordinating activities across State government to reduce energy consumption by at least 10 percent below FY14 levels by the end of FY19, identify opportunities to support a full transition toward renewable energy sources by 2025, support the integration of clean transportation solutions into the State’s fleet, and establish a stretch building code for use in all State construction and renovation projects.

Since 2015, OER has been collaborating with multiple State agencies to pursue projects such as solar installations, LED streetlight conversions, EV charging infrastructure installations, and building energy efficiency projects including HVAC and lighting upgrades.

Key 2019 Accomplishments

- Supporting the operation of 24 dual port electric vehicle charging stations on state properties;
- Collaboration with National Grid through the Strategic Energy Management Partnership to advance energy efficiency investments across state facilities;
- Development of Enterprise-Level Building Automation Systems;
- Participation in Demand Response Programs to reduce peak energy demand;
- Promoting the State’s first voluntary building Stretch Code;
- Offsetting 50% of electricity consumed by State facilities with renewable energy resources;
- Supporting the retrofit of Rhode Island state and municipal streetlights to cost-saving LED technology;
- Management of competitive electricity and natural gas supply contracts for all state agencies;
- Management of a centralized utility payment system for all state agencies that has delivered substantial financial and administrative efficiencies; and
- Implementation of a web-based utility bill management software to track and audit energy expenses.

Energy Management

OER is supporting State agencies by making energy consumption and cost data accessible online. OER has centralized State agency energy data and billing for electric, natural gas, and delivered fuels. By centralizing these bills, OER is helping to improve energy usage and cost forecasting, streamline payment processes, and foster the development of innovative strategies to meet the State’s energy reduction targets. In 2019, OER completed implementation of web-based utility bill management software to track and audit energy expenses and provide State agencies with enhanced online data access.

Energy Efficiency Purchasing Mechanisms

OER, in partnership with the Division of Purchases, has developed three purchasing mechanisms to support energy efficiency, renewable energy projects and transportation infrastructure. Master Price Agreement (MPA) 508 provides state agencies and other public entities with access to vendors that can deliver turnkey energy efficiency projects. Master Price Agreement (MPA) 509 provides state agencies and other public entities turnkey operation (equipment and services) of Electric Vehicle Supply Equipment (EVSE).

Finally, Continuous Recruitment (CR) 44 gives access to renewable energy installers that can provide small- to medium-scale solar installations. All purchasing mechanisms expedite project implementation by clearly defining proposal requisition processes and providing access to pre-qualified vendors.

Renewable Energy Projects

Consistent with the Governor’s Lead by Example and 1,000 MW clean energy goals, OER is spearheading efforts to increase the adoption of renewable energy resources across State facilities. Investments in both small and large-scale renewables, such as rooftop or ground-mounted solar, offer the potential to reduce long-term energy costs and exposure to price volatility, support local clean energy jobs, and “green-up” state agencies/facilities. To date, eight solar installations have been made operational: three on the Capitol Hill complex, one in the new Veterans home in Bristol, two at Rhode Island College, one (a carport) at the Public Utilities Commission building (Warwick), and one at the new Attorney General’s facility (Cranston). In addition, a new rooftop solar project is under construction at the Rhode Island Army National Guard’s Camp Fogarty facility.



The Capitol Hill Solar project is comprised of 900 solar panels on the rooftops of the Department of Administration, Department of Health and the Department of Transportation.

Lead by Example Clean Energy Awards

In June 2019, the Rhode Island Office of Energy Resources (OER) recognized 25 state government agencies, quasi-public agencies, municipalities, and state colleges and universities for their renewable energy and energy efficiency achievements at its Third Annual Lead by Example Clean Energy Awards ceremony, held at the Rhode Island State House. For more information on Lead by Example, please visit: www.energy.ri.gov/policiesprograms/lead-by-example/.

2019 Lead by Example Clean Energy Award-Winners



MUNICIPALITY:
City of Pawtucket



PUBLIC SCHOOL:
Warwick Public Schools



STATE AGENCY:
RI Department of Transportation



QUASI-PUBLIC AGENCY:
RI Convention Center



HIGHER EDUCATION:
Rhode Island College

HONOREES

Municipalities: City of East Providence, City of Providence, City of Woonsocket, Town of Burrillville, Town of North Kingstown, Town of North Providence, Town of Smithfield, Town of Warren.

Public Schools: Burrillville School Department, East Providence School District, Middletown Public Schools, Narragansett School System, North Smithfield School Department, West Warwick Public Schools.

State Agencies: Division of Capital Asset Management and Maintenance, Division of Public Utilities and Carriers, Rhode Island State Police.

Quasi-Public Agencies: Quonset Development Corporation, Rhode Island Public Transit Authority.

Higher Education: University of Rhode Island.



Grid of the Future

Rhode Island's energy system is at the cusp of a fundamental long-term transformation. Our electric grid is becoming increasingly more complex as consumers adopt distributed energy resources, including installing renewable energy systems like solar PV and participating in demand response and energy efficiency programs. The changing nature and growth of customer resources holds significant implications for the state's electric distribution system, grid planners and operators, and utility regulators.

Through her Power Sector Transformation initiative, Governor Raimondo directed OER to collaborate with partner agencies and develop recommendations for an updated utility regulatory framework. Accordingly, OER continues to participate in several initiatives to develop recommendations that will modernize the grid while ensuring access to clean, affordable, reliable, and equitable energy.

Power Sector Transformation Initiative

In November 2017, OER, the Division of Public Utilities and Carriers (DPUC), and the Public Utilities Commission (PUC) submitted an interagency “Rhode Island Power Sector Transformation (PST) Phase One Report” to Governor Raimondo. This report was drafted pursuant to the Governor’s March 2017 request to collaborate in the development of a more dynamic

utility regulatory framework that will enable Rhode Island to achieve key policy objectives. The PST report capped off an eight-month long process bringing together Rhode Island stakeholders, industry experts, and decision makers to discuss key issues and craft proposals for near-term implementation. The PST report provided principles and recommendations relative to the four key areas of: utility business model; grid connectivity and functionality; distribution system planning; and beneficial electrification of heating and transportation.

Following the submission of the PST report, National Grid filed an electric distribution rate case with the PUC to request the first change to electricity delivery rates since 2012 which addressed several topics identified in the PST report. In May 2018, National Grid, the DPUC, OER, and several other parties submitted a settlement agreement relative to National Grid’s rate case at the PUC.

Among other items, the PUC ordered National Grid to implement two of their proposed initiatives. Through the Electric Transportation Initiative, National Grid is conducting a pilot to understand how rebates can encourage electric vehicle drivers to charge off peak, providing advisory services to fleet managers to understand the value proposition for transition to an electric fleet, providing incentives to make sites ready

for electric vehicle charging infrastructure, and offering a discount on demand charges for DC Fast Charger hosts. Through the Energy Storage Initiative, National Grid is installing two battery energy storage facilities, one of which will be paired with electric vehicle charging infrastructure. OER is engaged with the implementation and evaluation of these programs; learnings will have implications for how we manage the electric distribution grid in an environment of increased transportation electrification and distributed generation. OER is also actively participating National Grid's PST Advisory Group to refine a longer-term proposal for grid modernization and to develop a business case for advanced metering functionality. National Grid is anticipated to file these two items with the PUC in 2020.

For more information on the Power Sector Transformation Initiative, please visit: www.ripuc.ri.gov/utilityinfo/electric/PST_home.html.

Multi-state Task Force on Comprehensive Electricity Planning

In February 2019, Rhode Island was invited to join the Task Force on Comprehensive Electricity Planning, a multi-state task force that includes 15 states and Puerto Rico. The two-year collaborative initiative of the National Association of Regulatory Utility Commissioners (NARUC) and the National Association of State Energy Officials (NASEO) is a forum for participating states to develop new approaches to better align distribution system and resource planning processes in order to prepare their electrical grids for the future. The selected states will pioneer new tools and roadmaps for aligning planning to meet states' needs while applying insights from the task force to initiate action in their own states.

OER is actively participating alongside the Division of Public Utilities and Carriers and Public Utilities Commission. The task force initiative is supported by

the U.S. Department of Energy.

For more information on the Task Force on Comprehensive Electricity Planning, please visit: www.naruc.org/taskforce.

Solar Energy Innovation Network

From 2018-2019, Rhode Island participated in the Solar Energy Innovation Network (SEIN) as part of a team led by the Clean Energy States Alliance (CESA) and including Connecticut, New Hampshire, Washington D.C., Washington state, and Wisconsin. SEIN is a collaborative research effort led by the National Renewable Energy Laboratory and supported by the U.S. Department of Energy.

Over the course of the initiative, the team collectively aimed to advance state decision-making for identifying high-value locations for Distributed Energy Resource (DER) development, with goals specific to each state. In Rhode Island, OER leveraged its experience participating in a non-wires alternative project in 2015 to enable greater grid transparency and to improve screening standards for future non-wires projects.

For more information on the Solar Energy Innovation Network, please visit: www.nrel.gov/solar/solar-energy-innovation-network.html.

Heating



Heating and thermal energy use accounts for roughly one-third of Rhode Island’s statewide energy consumption and approximately 35 percent of statewide GHG emissions. OER is helping lead efforts to develop strategies for expanding access to cleaner, more energy efficient and clean energy heating solutions for homes and businesses. Existing and emerging alternative heating technologies offer the promise of reducing thermal consumption and long-term consumer costs; mitigating the thermal sector’s impact on the environment; and creating new investment and employment opportunities throughout our economy.

Heating Sector Transformation Executive Order

In July 2019, Governor Raimondo signed Executive Order 19-06 launching a Heating Sector Transformation initiative to advance the development of clean, affordable, and reliable heating technologies consistent with greenhouse gas reduction goals. Led by OER and the Division of Public Utilities and Carriers (DPUC), this effort has engaged public and private sector partners to identify the economic, energy, and environmental opportunities and challenges posed by Rhode Island's heating sector. The agencies have been tasked with creating a comprehensive approach to set the state on a course toward a lower-carbon heating future. For more information, visit www.energy.ri.gov/HST/.



Governor Gina M. Raimondo surrounded by state leaders and environmental advocates at the Heating Sector Transformation Executive Order signing ceremony on July 18, 2019.

Transportation

Transportation is the costliest energy sector in Rhode Island, accounting for about 40 percent of statewide energy expenditures. The sector also remains heavily dependent on petroleum-based fuels such as gasoline and diesel, with major implications for long-term environmental sustainability. OER has worked with stakeholders to promote the use of alternative and clean transportation solutions that can reduce overall energy consumption and long-term consumer costs; mitigate the transportation sector's impact on our environment and create new opportunities for industry growth.

Electric Vehicle Ride and Drive Event

In September 2019, OER partnered with the Department of Environmental Management (DEM), Ocean State Clean Cities (OSCC) and Green Energy Consumers Alliance to hold the 2nd Annual Electric Car Ride & Drive at Roger Williams Park. Approximately 150 people attended the event and 37 people participated in EV Ride and Drives. There were four dealers (Toyota, Nissan, Tesla and Jaguar) in attendance. In addition, there were approximately 20 EV ambassadors that came to the event to showcase their vehicles and answer attendee questions.



Members of the public tour the latest electric vehicle models at the Ride & Drive event held at Roger Williams Park on September 22, 2019.

Ocean State Clean Cities

In 2019, the Ocean State Clean Cities (OSCC) Coalition was relocated to OER. OSCC was designated as a Clean Cities coalition in 1998. As part of the U.S. Department of Energy's Vehicle Technologies Office, Clean Cities coalitions foster the nation's economic, environmental, and energy security by working locally to advance affordable, domestic transportation fuels, energy efficient mobility systems, and other fuel-saving technologies and practices.

OSCC helped organize an Electric Vehicle Ride and Drive event, shared information on alternative fuels at the 2019 Home Show/Energy Expo and worked with the OER to implement the Electrify RI – Electric Vehicle Incentive Program.

Electrify Rhode Island

In October 2019, OER launched Electrify RI – an electric vehicle (EV) charging station incentive program that is supporting greenhouse gas emissions reductions across the state's transportation sector by encouraging the adoption of more sustainable transportation solutions. The program has helped incentivize the installation of new EV charging stations at Rhode Island workplaces, multi-unit dwellings, state and local government properties, and publicly accessible locations.

Electrify RI makes \$1.4 million available to Rhode Island companies, government entities, non-profits and multi-unit dwellings, on a first-come first-served basis, to install Level II and Direct Current Fast Charging (DCFC) stations. For more information, please visit: www.energy.ri.gov/electrifyri.php.

The funds for Electrify RI come from the Volkswagen Diesel Settlement (VW Settlement) Environmental Mitigation Trust and are being invested pursuant to the state's Beneficiary Mitigation Plan (BMP) to achieve significant and sustained reductions in diesel emissions and expedite development and widespread adoption of zero emission vehicles. Other funds from this settlement are supporting an all-electric bus pilot program at the Rhode Island Public Transit Authority (RIPTA). For more information on the VW settlement, please visit: www.dem.ri.gov/programs/air/vwsettle.php.

Appendix A: Rhode Island Energy Resources Act

OER's purposes under the Rhode Island Energy Resources Act are to:

- (1) Develop and put into effect plans and programs to promote, encourage, and assist the provision of energy resources for Rhode Island in a manner that enhances economic well-being, social equity, and environmental quality;
- (2) Monitor, forecast, and report on energy use, energy prices, and energy demand and supply forecasts, and make findings and recommendations with regard to energy supply diversity, reliability, and procurement, including least-cost procurement;
- (3) Develop and to put into effect plans and programs to promote, encourage and assist the efficient and productive use of energy resources in Rhode Island, and to coordinate energy programs for natural gas, electricity, and heating oil to maximize the aggregate benefits of conservation and efficiency of investments;
- (4) Monitor and report technological developments that may result in new and/or improved sources of energy supply, increased energy efficiency, and reduced environmental impacts from energy supply, transmission and distribution;
- (5) Administer the programs, duties, and responsibilities heretofore exercised by the state energy office, except as these may be assigned by executive order or the general laws to other departments and agencies of state government;
- (6) Develop, recommend and, as appropriate, implement integrated and/or comprehensive strategies, including at regional and federal levels, to secure Rhode Island's interest in energy resources, their supply and efficient use, and as necessary to interact with persons, private sector, non-profit, regional, federal entities and departments and agencies of other states to effectuate this purpose;
- (7) Cooperate with agencies, departments, corporations, and entities of the state and of political subdivisions of the state in achieving its purposes;
- (8) Cooperate with and assist the state planning council and the division of state planning in developing, maintaining, and implementing state guide plan elements pertaining to energy and renewable energy;
- (9) Coordinate the energy efficiency, renewable energy, least cost procurement, and systems reliability plans and programs with the energy efficiency resource management council and the renewable energy coordinating board;

- (10) Participate in, monitor implementation of, and provide technical assistance for the low-income home energy assistance program enhancement plan established pursuant to § 39-1-27.12;
- (11) Participate in and monitor the distributed generation standard contracts program pursuant to chapter 39-26-2;
- (12) Coordinate opportunities with and enter into contracts and/or agreements with the economic development corporation associated with the energy efficiency, least-cost procurement, system reliability, and renewable energy fund programs;
- (13) Provide support and information to the division of planning and the state planning council in development of a ten (10) year Rhode Island Energy Guide Plan, which shall be reviewed and amended if necessary every five (5) years;
- (14) Provide funding support if necessary to the renewable energy coordinating board and/or the advisory council to carry out the objectives pursuant to chapter 42-140-3;
- (15) Advise and provide technical assistance to state and federally funded energy program to support:
- (i) The federal low-income home energy assistance program which provides heating assistance to eligible low-income persons and any state funded or privately funded heating assistance program of a similar nature assigned to it for administration;
 - (ii) The weatherization assistance program which offers home weatherization grants and heating system upgrades to eligible persons of low-income;
 - (iii) The emergency fuel program which provides oil deliveries to families experiencing a heating emergency;
 - (iv) The energy conservation program, which offers service and programs to all sectors; and
 - (v) [Deleted by P.L. 2008, ch. 228, § 2, and P.L. 2008, ch. 422, § 2.]
- (16) Advise the economic development corporation in the development of standards and rules for the solicitation and award of renewable energy program investment funds in accordance with § 42-64- 13.2;
- (17) Develop, recommend, and evaluate energy programs for state facilities and operations in order to achieve and demonstrate the benefits of energy-efficiency, diversification of energy supplies, energy conservation, and demand management; and
- (18) Advise the governor and the general assembly with regard to energy resources and all matters relevant to achieving the purposes of the office.

Appendix B: System Benefits Charge

OER receives the majority of its funding for staffing through the System Benefits Charge (SBC). OER received \$965,900 from the SBC in 2018 and \$1,019,057 in 2019. These funds are used for staffing activities associated with the development, implementation, and evaluation of energy efficiency and clean energy programs; system reliability; energy security; and regional energy system activities. In addition, these funds support OER's engagement in regulatory proceedings and other actions pertaining to the purposes, powers, and duties enumerated in the Rhode Island Energy Resources Act.

As of January 1, 2020, OER is staffed with eleven (11) full time state employees, and the SBC funding provides approximately 18 percent of annual salaries and fringe, with the balance contributed from other limited restricted receipt and federal funds.

The invaluable funding resources provided through the SBC have supported the numerous activities and accomplishments detailed throughout this Annual Report, including, but not limited to:

- Development and implementation of the new Rhode Island State Energy Plan;
- Oversight and development of the state's annual Clean Energy Jobs Report;
- Program, technical, and administrative support for the state's nation-leading energy efficiency programs;
- Coordination and implementation of additional energy efficiency initiatives, including the Efficient Buildings Fund, Zero Energy and High-Performance Buildings, the Farm Energy Efficiency Program, and Utility District Energy Efficiency Programs;
- Direct implementation and/or programmatic support for renewable energy programs that grow our local clean energy economy, including the Renewable Energy Growth Program and clean energy procurements;
- Design and implementation of program initiatives and market development strategies for promoting alternative, clean heating and transportation solutions;
- Coordination of grid of the future efforts to transition the state to a modern distributed energy system;
- Implementation of the state's "Lead by Example" initiative to reduce energy consumption, lower GHG emissions, and promote renewable energy across State Government facilities;
- Active participation in important regulatory proceedings necessary to implement state mandates and policy goals, such as least-cost procurement activities (system reliability and energy efficiency), renewable distributed generation programs, rate design and electric distribution system planning;
- Engagement on regional energy infrastructure issues, working in collaboration with the New England states, ISO-NE, and other stakeholders; and
- Staffing the Emergency Operation Center during severe weather-related events at the Rhode Island Emergency Management Agency.

Appendix C: State Energy Plan Implementation Update

In 2013 and 2014, OER staff led efforts to develop a ten-year update to the Rhode Island State Energy Plan (“Energy 2035”, or “the Plan”). On October 8, 2015, the State Planning Council voted to adopt Energy 2035 as an element of the State Guide Plan, codifying the Plan as the state’s formal long-term, comprehensive energy strategy.

The Plan represents Rhode Island’s first data-driven energy planning and policy document. The vision of the Plan is to provide energy services across all sectors—electricity, thermal, and transportation— using a secure, cost-effective, and sustainable energy system. The Plan sets bold and ambitious goals and strategies for transforming Rhode Island’s energy system.

The Plan charges OER with providing a yearly status update on Plan implementation in the OER Annual Report. The status update provides information on progress toward implementing each of the Plan’s 20 recommended strategies.

This appendix provides a summary of State Energy Plan implementation as of December 31, 2019.

Energy 2035 Policies & Strategies

The State Energy Plan recommended an "all-of-the-above" clean energy framework to achieve the Plan goals and performance measure targets. The Plan presented 20 strategies in seven major policy areas, plus a cross-cutting policy encouraging state and municipal governments to “Lead by Example”:

- Maximize energy efficiency in all sectors;
- Promote local and regional renewable energy;
- Develop markets for alternative thermal and transportation fuels;
- Make strategic investments in energy infrastructure;
- Mobilize capital and reduce costs;
- Reduce greenhouse gas emissions; and
- Lead by example.

More information about Lead by Example may be found at www.energy.ri.gov/policies-programs/lead-by-example/.

Below is a summary of implementation progress on the 20 strategies recommended by Energy 2035, as of 2019.

1. Continue electric and natural gas Least-Cost Procurement

Strategy Summary

The Plan called for Rhode Island to renew the state’s commitment to leadership in energy efficiency by extending the Least-Cost Procurement mandate, originally set to sunset in 2018. Least-Cost Procurement requires electric and gas distribution companies to invest in all cost-effective energy efficiency before procuring more expensive, conventional supply resources. The Plan identified a continuation of Least-Cost Procurement as one of the most cost-effective methods to achieve Rhode Island’s long-term energy, economic, and environmental goals.

Implementation Progress

In 2015, the General Assembly passed and Governor Gina M. Raimondo signed an extension of Least Cost Procurement to 2024. The extension of the law ensures that Rhode Island electric and natural gas customers will continue to enjoy access to the state’s nationally recognized energy efficiency programs for the near future. In 2018 and 2019, Rhode Island continued to be recognized as a leader for its Energy Efficiency and Least Cost Procurement programs. ACEEE ranked the Ocean State third in the country for energy efficiency programs and innovation in both 2018 and 2019. In 2018, the state’s energy efficiency programs helped ratepayers save 206,209 annual megawatt-hours (MWH) of electricity (2.75% of 2015 electric consumption) and 497,119 annual million Btu (MMBTu) of natural gas (1.21% of natural gas consumption), producing over \$270 million in utility bill savings over the lifetime of the measures installed.

2. Expand Least-Cost Procurement to unregulated fuels

Strategy Summary

The Plan called for Rhode Island to develop a long-term strategy for sustainably funding energy efficiency programs for delivered fuels customers. Over one-third of Rhode Island homes use delivered fuels such as oil and propane for heating, yet little dedicated energy efficiency program funding exists to serve these customers. The Plan identified delivered fuels use as one of the largest as-of-yet untapped sources of cost-effective savings in the state’s energy economy.

Implementation Progress

In 2018, OER received a commitment from the Utility that the weatherization incentive for delivered fuels would be the same as the incentive for natural gas in the 2019 Energy Efficiency Program Plan.

In April 2020, OER (in collaboration with DPUC) released a comprehensive report on Heating Sector Transformation. One of its key recommendations is for Rhode Island to develop policies that guarantee gradual decarbonization of all heating “fuels,” so that even if fuels continue to be burned, GHG missions will fall. Policies in this category include, but are not limited to, renewable “fuel” standards or fuel-specific decarbonization mandates, cap-and-trade programs, or a carbon tax construct. Given the size and connectedness of Rhode Island to New England, it is likely that any such policy would benefit significantly from regional coordination. Some existing policies could be expanded or used as a blueprint for developing heating related approaches. For example, the Regional Greenhouse Gas Initiative (RGGI) is a cap-and-trade program that covers emissions from most power plants in the electric sector. It could be broadened to include more plants or sectors, just like the cap-

and-trade program in place in California was expanded over time to include sources of greenhouse gas emissions other than those in the electricity sector. Similarly, renewable energy standards (RES) can be expanded to the heating sector, requiring decreasing carbon content (or an increasing share of clean or renewable “fuel”) across all heating “fuels” or for each fuel separately. Examples include California’s low carbon fuel standard (LCFS), which is a program that requires decarbonization across all transportation fuels, or fuel-specific blending requirements, such as the 5% biodiesel blend requirement for heating fuel currently in place in Rhode Island. Finally, Renewable Thermal RPS programs are beginning to be introduced in a number of states, including elsewhere in New England. For more information on the Heating Sector Transformation, visit www.energy.ri.gov/HST/.

Also, in 2020, OER allocated \$2.75 million in RGGI funds for enhanced incentives supporting electric savings and other energy and environmental benefits associated with installation and operation of air-source heat pumps (ASHP). ASHPs are a critical technology for supporting the achievement of the state’s greenhouse gas emission reduction goals and are a core technology pathway for Heating Sector Transformation. Moreover, ASHPs are often installed by local HVAC businesses and support clean energy industry and job growth.

3. Reduce vehicle miles traveled

Strategy Summary

The Plan called for Rhode Island to invest in alternative modes of transportation; promote sustainable development and land use practices; and pilot programs incentivizing reduced discretionary driving. Rhode Island’s transportation sector, which is dominated by imported, petroleum-based fuels such as gasoline and diesel, represents Rhode Island’s costliest and most environmentally damaging energy sector. As in other sectors, the least-cost way to reduce impacts of transportation energy use is by reducing demand—traditionally measured in terms of vehicle miles traveled (VMT). The Plan recommends implementing a suite of strategies to reduce VMT; many of them already proposed in multiple existing Rhode Island transportation, transit, and land use plans.

Implementation Progress

In 2018, RIDOT has expanded its ferry season by several weeks, alleviating congestion caused by those trying to reach Newport from urban locations. RIDOT staff is examining the viability of additional ferry stops and routes. RIDOT continues to develop the Providence Intermodal Transit Center and the Pawtucket/Central Falls station, while providing technical assistance and working to partner with communities seeking Transit Oriented Development opportunities. Trains to Planes entered its third year, an example of a RIDOT initiative to remove congestion from state roads for large-scale events. In 2017 and 2018, RIDOT also kicked off its Transportation Innovation Partnership (TRIP) Mobility Challenge. This initiative, in partnership with the City of Providence and RIPTA, will be focused on testing and deploying innovative transportation technology (e.g. electric autonomous shuttle buses) to connect Providence’s Downtown to the Woonasquatucket River Corridor, filling a transportation gap in an area of burgeoning development.

In May 2019, RIDOT kicked off the Little Roady autonomous vehicle pilot project in Providence. The pilot will evaluate autonomous mobility technology. The six-passenger vans operated seven days a week with 12 stops between Olneyville Square and Providence Station. The project was funded using VW settlement funds, state funds and Federal Highway Administration research funds. More information about Little Roady may be found at

4. Improve fuel efficiency and reduce vehicle emissions

Strategy Summary

The Plan called for Rhode Island to continue to adopt the increasingly stringent vehicle emissions standards set by California until 2025 and thereafter. Although authority to set standards for fuel efficiency and motor vehicle emissions falls under the purview of the federal government, Section 177 of the Clean Air Act allows California to request a waiver to adopt stricter standards. States may establish stricter regulations by adopting California's standards, and Rhode Island is one of 15 states that has done so, to date. Although federal standards (Corporate Average Fuel Economy, or CAFE) are currently essentially aligned with California's greenhouse gas standards, the Plan recommends that Rhode Island continue to adopt the increasingly stringent vehicle emissions standards set by California, should federal standards be relaxed.

Implementation Progress

In July 2013, the Rhode Island Department of Environmental Management (DEM) amended Air Pollution Control Regulation No. 37, Rhode Island's Low-Emission Vehicle Program, to reflect the most recent CARB Low Emission Vehicle (LEV) III standards and Zero Emission Vehicle (ZEV) requirements. As of 2016, this regulation continues to be in place, keeping Rhode Island's vehicle emissions standards in line with California's. For the full regulation text, visit rules.sos.ri.gov/regulations/part/250-120-05-37.

5. Innovate with state energy efficiency codes and standards

Strategy Summary

The Plan called for Rhode Island to strengthen appliance minimum standards, and develop an integrated, long-term strategy to transition to zero net energy buildings. The Plan identified codes and standards as one of the most simple and cost-effective policy tools for promoting energy efficiency in appliances and buildings.

Implementation Progress

In February 2018, Rhode Island's first voluntary Stretch Codes were made available to private and public building construction and renovation projects. The codes were developed with the assistance of subject matter experts and were vetted through a public comment process. Current Rhode Island Stretch Codes are available at www.energy.ri.gov/policies-programs/lead-by-example/rhode-island-stretch-codes.php and through the Building Code Commission's website at www.ribcc.ri.gov.

Rhode Island's Stretch Codes are meant to be used on a voluntary basis to guide the construction and/or renovation of buildings that use less energy, have less negative impact on the environment, and achieve higher levels of occupant health and comfort. New building construction and large-scale renovation projects are also encouraged to use the Stretch Codes to help maximize the financial incentives available from National Grid's Energy Efficiency Programs.

In 2019, OER partnered with Rhode Island Housing to launch the Zero Energy for Ocean State demonstration

project. Developing demonstration projects for was one of the recommendations from the 2016 Zero Energy Building taskforce white paper. OER is also a supporting Partner in the City of Providence's RePowerPVD Challenge.

6. Improve combined heat and power market

Strategy Summary

The Plan called for Rhode Island to evaluate additional methods to speed the diffusion of combined heat and power (CHP) technologies into the Rhode Island marketplace. CHP, also called co-generation, refers to systems that generate both electricity and useful heat, thereby increasing the efficiency of on-site energy use. The Plan identified the opportunity to deploy potentially significant amounts of additional CHP in Rhode Island, with the possibility of achieving 400 MW of in-state CHP by 2035.

Implementation Progress

Since 2012, Rhode Island law has required National Grid to document the support for the installation and investment in clean and efficient CHP annually in its energy efficiency program plan by including a plan for identifying and recruiting qualified CHP projects, incentive levels, contract terms and guidelines, and achievable megawatt targets. In recent years, National Grid has identified several key strategies to promote additional uptake of CHP, including development of a CHP user's guide, hiring of a dedicated CHP program manager, and broadened rules for program eligibility.

In 2019, OER advocated the Utility to explore biofuels in CHP technologies in the 2020 Energy Efficiency Program Plan.

7. Expand the Renewable Energy Standard

Strategy Summary

The Plan called for Rhode Island to increase the Renewable Energy Standard (RES) beyond 16 percent by 2019 (In 2013, the Public Utilities Commission issued a ruling in Docket 4404 that established a new maximum RES target of 14.5 percent in 2019). The RES requires retail electricity providers to supply an increasing percentage of their sales from renewable energy resources such as solar, wind, wave, geothermal, small hydropower, biomass, and fuel cells. The Plan demonstrated that achieving the state's greenhouse gas reduction goals will likely require a 40 percent RES by 2035 at a minimum.

Implementation Progress

In 2016, the General Assembly passed a bill expanding the Renewable Energy Standard beyond 2019 by an additional 1.5 percent each year until 2035, for an ultimate RES of 38.5 percent in 2035.

8. Expand renewable energy procurement

Strategy Summary

The Plan called for Rhode Island to increase the share of renewable energy in Rhode Island's electricity supply

portfolio through a mix of clean energy imports, distributed renewable generation, and utility- scale in-state projects. Supporting the growth of in-state renewable energy generation will bring economic development, system reliability, and job creation benefits to the state. The Plan estimated the need for over 500 MW of local renewable energy projects by 2035.

Implementation Progress

In March 2017, Governor Gina M. Raimondo announced a strategic goal to increase the state's clean energy ten-fold by the end of 2020 – achieving a total of 1,000 MW of clean energy projects.

In 2016, the baseline year for this goal, Rhode Island had approximately 100 megawatts of clean energy. Progress toward that goal is reported quarterly.

As of the end of the first quarter of 2020, the state has counted approximately 920 MW of clean energy generation capacity. Of that 920 MW total, 430 MW is offshore wind, 300 MW is solar, 144 MW is onshore wind, 35 MW is landfill gas/anaerobic digestion, and 11 MW is small hydroelectric power.

With the addition of the 400 MW Revolution Wind project, approximately 85 percent of Rhode Island's current clean energy portfolio is comprised of in-state renewables or projects scheduled for adjacent federal waters.

The 1000 MW goal is not just about energy, but clean energy jobs too. Now 16,021 jobs strong, Rhode Island's clean energy economy continues to demonstrate robust economic growth. Since 2014, clean energy employment in the Ocean State has grown by an impressive 74 percent. The Governor has set a goal to reach a total of 20,000 clean energy jobs by 2020.

More information about the state's clean energy progress may be found at www.energy.ri.gov/renewable-energy/governor-clean-energy-goal.php.

9. Mature the renewable thermal market

Strategy Summary

The Plan called for Rhode Island to implement a market development strategy to stimulate increased adoption of renewable thermal fuels. Renewable thermal fuels and clean heating technologies include biomass, solar hot water, ground- and air-source heat pumps, advanced biofuels, and biogas. Although the thermal sector accounts for approximately one-third of Rhode Island energy consumption, virtually no renewable thermal market yet exists in the state.

Implementation Progress

In July 2019, Governor Raimondo launched a Heating Sector Transformation initiative (Executive Order 19-06) and called upon OER and the Division of Public Utilities & Carriers to identify the economic, energy, and environmental opportunities and challenges posed by a decarbonized heating future. A final report was presented in April 2020 and made available at: www.energy.ri.gov/HST/.

10. Expand use of biofuels

Strategy Summary

The Plan called for Rhode Island to increase the biodiesel content of distillate fuel blends used by Rhode Island's thermal and transportation sectors. Distillate fuels such as heating oil and diesel play a significant role in Rhode Island's energy system; increasing the biodiesel content of these fuels will help the state achieve its energy, economic, and environmental goals. The Plan recommends an evaluation of the suitability of increasing the state's existing 5 percent biofuel blending mandate to a 20 percent standard by 2035.

Implementation Progress

In July 2019, Governor Raimondo launched a Heating Sector Transformation initiative (Executive Order 19-06) and called upon OER and the Division of Public Utilities & Carriers to identify the economic, energy, and environmental opportunities and challenges posed by a decarbonized heating future. A final report was presented in April 2020 and made available at: www.energy.ri.gov/HST/.

11. Promote alternative fuel and electric vehicles

Strategy Summary

The Plan called for Rhode Island to mature the market for alternative fuel and electric vehicles through ongoing efforts to expand fueling infrastructure, ease upfront costs for consumers, and address other barriers to adoption. Almost all currently registered vehicles in the state use gasoline or diesel; 757 electric vehicles were registered in Rhode Island as of December 2016. Increasing the market share of alternative fuel and electric vehicles is a key strategy to meeting the Plan's energy security, economic, and environmental goals.

Implementation Progress

In August 2018, Rhode Island filed a Beneficiary Mitigation Plan (BMP) detailing how the state's VW Diesel Settlement funds would be invested. DEM has allocated funds toward two main projects. The first was to support a pilot program at RIPTA to begin adopting all-electric buses across their fleet. RIPTA leased three all-electric buses in October 2018, with plans to purchase 16-20 electric buses as permanent additions to its fleet.

DEM directed \$1.4 million in funds to OER to support deployment of electric vehicle charging stations. With those funds, OER established the Electrify RI EV charging station incentive program. Electrify RI seeks to make more charging stations accessible to Rhode Island drivers. The increased availability of charging stations will encourage state residents and business to make the switch to electric vehicles in order to reduce transportation-related carbon emissions and pollutants. This \$1.4 million incentive program will help fund the installation of new EV charging stations – including Level II and Direct Current Fast Charging (DCFC) – at Rhode Island workplaces, multi-unit dwellings, state and local government properties, and publicly-accessible locations. Incentives will be offered on a first-come, first-served basis. More information about Electrify RI may be found at www.energy.ri.gov/electrifyri.php.

12. Enhance energy emergency preparedness

Strategy Summary

The Plan called for Rhode Island to develop a short- and long-term strategy for mitigating critical infrastructure energy security risks and investing in power resiliency solutions. Extreme weather events in recent years have highlighted the need for updated energy emergency plans and resiliency improvements to infrastructure and critical facilities. The Plan recommends that Rhode Island build on past and current inter-agency efforts to develop a comprehensive energy emergency preparedness strategy, as well as explore the innovative use of microgrids and backup generation to keep critical infrastructure online during severe weather events.

Implementation Progress

The Rhode Island Emergency Management Agency (EMA) completed the development of a Rhode Island state-specific Critical Infrastructure Protection Plan (CIPP) in 2017. OER contributed to the development of the CIPP by leading the development of screening criteria for prioritizing critical energy infrastructure as well as identification of priority critical energy assets based on application of the criteria. Additionally, in 2017, OER completed a study identifying opportunities and recommendations for deploying resilient microgrids for critical services in Rhode Island.

In 2017 Governor Raimondo signed executive order to develop a statewide Climate Resilience Action Strategy. The Resilient Rhody report was submitted to the governor in July 2018. OER continues to attend the Resilience Coordinator meetings. These cross-agency meetings discuss and report the progress made on climate resilience actions that were identified in the Resilient Rhody report. The report may be viewed online at www.climatechange.ri.gov/resiliency/.

In 2019, OER allocated \$1.5 million in RGGI funds to Commerce Corporation's Renewable Energy Fund to support grants related to microgrid development throughout the state. Program design will be completed in 2020.

13. Modernize the grid

Strategy Summary

The Plan called for Rhode Island to develop recommendations for electric grid, rate, and regulatory modernization. Rhode Island's energy system is at the cusp of a fundamental long-term transformation as consumers increasingly adopt energy efficiency, renewable energy, and other "distributed energy resources." The Plan envisions a cooperative effort among grid operators, planners, and regulators to identify solutions for transitioning the electric system transitions from a centralized model to distributed future.

Implementation Progress

In March 2017, Governor Raimondo issued a letter to OER, the Division of Public Utilities and Carriers (DPUC), and the Public Utilities Commission (PUC), asking the three agencies to collaborate in the development of a more dynamic utility regulatory framework that will enable Rhode Island to achieve key policy objectives. In response, the three agencies submitted a Power Sector Transformation (PST) Phase One Report in November 2017, with principles and recommendations in the following areas: utility business model, grid functionality, distribution

system planning, and beneficial electrification of heating and transportation. National Grid’s 2018 rate case settlement agreement, if approved, will advance many of the topics identified in the PST report, including electric transport, electric heat, energy storage, grid modernization, advanced metering, and performance incentive mechanisms. More information about the Power Sector Transformation may be found at www.energy.ri.gov/electric-gas/future-grid/.

In May 2018, National grid, the DPUC, OER and several other parties submitted a settlement agreement relative to National Grid’s rate case at the PUC. The PUC ordered National Grid to implement two of their proposed initiatives: The Electric Transportation Initiative and the Energy Storage Initiative. OER is engaged with the implementation and evaluation of these programs. OER is participating in National Grid’s PST Advisory Group to refine a longer-term proposal for grid modernization.

14. Address natural gas leaks

Strategy Summary

The Plan calls for Rhode Island to review the progress of gas infrastructure repair and replacement in Rhode Island. Not only do leaks in the natural gas distribution system pose safety and reliability concerns, but they also represent the seventh largest source of greenhouse gas emissions in the state, as of 2012. National Grid currently has an aggressive leak repair and pipe replacement program through their annual Gas Infrastructure, Safety, and Reliability (ISR) Plan.

Implementation Progress

In the FY2018 and FY2019 ISR Plans, National Grid continued its program of eliminating and rehabilitating leak prone pipe. More information may be found at the following links:

FY 2017

www.ripuc.ri.gov/eventsactions/docket/4590page.html

FY 2018

www.ripuc.ri.gov/eventsactions/docket/4678page.html

FY 2020

www.ripuc.ri.gov/eventsactions/docket/4916page.html

15. Expand financing and investment tools

Strategy Summary

The Plan calls for Rhode Island to bring energy efficiency, renewable energy, and alternative transportation programs to scale by deploying new sources of capital. Although Rhode Island ranks among the national leaders in clean energy investment, the pace and magnitude of investment is not commensurate with levels required to achieve long-term energy goals. The Plan recommends examining how financing opportunities can best be used to expand the reach of clean energy initiatives, lower their overall costs, and otherwise support the wider and hastened adoption of efficient and clean technologies.

Implementation Progress

OER and RIIB continued to jointly administer the Efficient Buildings Fund in 2018 and 2019, which has funded \$31 million in comprehensive energy efficiency and renewable energy projects for local governmental entities since its inception. For more information, visit www.energy.ri.gov/RIEBF/.

16. Reduce the soft costs of renewable energy

Strategy Summary

The Plan calls for Rhode Island to provide guidance at the state and municipal levels for uniform, standardized clean energy permitting processes to streamline development and mitigate regulatory hurdles to renewable deployment. Clear standards and regulations provide the private sector with a simplified environment for doing business and can help companies offer clean energy products to consumers at a lower cost.

Implementation Progress

OER published a Residential Guide to Going Solar in 2018. The Guide is intended to help RI residents that are considering an investment in Solar PV and aid them in navigating the process of going solar. In February 2019, OER and the Division of Statewide Planning developed and released solar siting educational guidelines and information to municipalities. In addition, OER began providing eligible virtual net metering customers technical assistance with preparing RFPs. Assistance was provided to the Chariho Regional School District, Exeter-West Greenwich School District and RIPTA. The guide may be found at www.energy.ri.gov/documents/solar/Guide-to-Going-Solar.pdf.

17. Address high and volatile regional energy costs

Strategy Summary

The Plan calls for Rhode Island to continue to partner closely with other New England states to address regional energy supply challenges and identify cost-effective strategies to mitigate the impacts of rising energy costs. In recent years, the region has experienced energy price volatility due to the growing use of natural gas for power generation combined with limited pipeline capacity delivering gas into New England. The Plan recommends that Rhode Island work with neighboring states to pursue the full range of available options, from energy efficiency investments to infrastructure solutions.

Implementation Progress

In addition to the suite of energy efficiency and renewable energy initiatives listed above, OER worked with regional partners throughout 2019 to advance shared energy, economic, and environmental interests through strategic solutions that benefit from economies of scale. For example, OER supported Rhode Island's active participation in the issuance of the region's first Multi-State Clean Energy Request for Proposals (RFP), which resulted in Rhode Island's selection of 44 MW of new renewable capacity, forecasted to save local consumers \$70 million in energy costs over the next twenty years. OER also collaborated closely with sister states through the New England States Committee on Electricity (NESCOE) on a number of key areas with the potential to mitigate high and volatile energy prices and improve regional electric transmission planning processes.

18. Continue participating in RGGI

Strategy Summary

The Plan calls for Rhode Island to continue participating in the Regional Greenhouse Gas Initiative (RGGI). RGGI is the first market-based cap and trade program in the United States designed to reduce electric power sector greenhouse gas emissions. The Plan envisions ongoing involvement in RGGI as a cost-effective mechanism to cap and reduce emissions in the electric power sector, a major source of greenhouse gas emissions in the region.

Implementation Progress

Through 2019, Rhode Island continued its participation in RGGI and its track record of committing auction proceeds to cost-effective energy efficiency and renewable energy projects. For more information on the use of Rhode Island's RGGI funds, please see Appendix D of this Annual Report, or visit: www.energy.ri.gov/policies-programs/programs-incentives/rggi.php.

19. Develop a carbon reduction strategy

Strategy Summary

The Plan calls for Rhode Island to evaluate a cost-effective portfolio of policies to meet statutory near- and long-term greenhouse gas emissions reduction targets. The passage of the 2014 Resilient Rhode Island Act institutionalized clear greenhouse gas emissions reduction goals in state law. The next step for the state is to develop an implementation strategy to achieve the ambitious reduction targets.

Implementation Progress

In 2019, OER together with DEM and DOT solicited proposals from qualified firms to serve as the lead contractor for preparing a "Rhode Island Carbon Pricing Study" (the study was approved by the Senate in 2017). In October 2019, a kickoff meeting was held with Cadmus, Synapse Energy Economics Inc. and a variety of Stakeholders. The Carbon Pricing Study is estimated to be complete in fall of 2020 and will look at carbon pricing policies and best practices in other states, regions and countries that RI could emulate. Carbon pricing study documents are posted at www.energy.ri.gov/reports-publications/.

20. Lead by Example

Strategy Summary

The Plan calls for Rhode Island to implement a tailored and comprehensive public sector "Lead by Example" initiative. State and local governments each have a key role to play in helping Rhode Island achieve its energy goals, both through direct investments in cost-effective clean energy solutions, as well as through the creation of favorable, streamlined regulatory environments for businesses in the clean energy sector. The Plan provides recommendations for both the State and municipalities to lead by example in energy efficiency, renewable energy, and alternative transportation.

Implementation Progress

Through 2019, OER continued to lead implementation of Governor Gina M. Raimondo’s Executive Order 15-17, which requires State agencies to “Lead by Example” and transition energy supply portfolios and consumption practices toward lower-cost, cleaner, low-carbon solutions. Notable achievements to date include: reducing energy consumption across State facilities by 10.1% compared to a 2014 baseline; supporting the installation of 50 new dual port electric vehicle charging stations across the state; launching a Demand Response Program for the State; developing the State’s first voluntary building Stretch Code; ensuring that 50% of electricity consumed by State facilities comes from renewable energy resources; and converting State-owned highway streetlights to LED technology. For more information, please visit: www.energy.ri.gov/policies-programs/lead-by-example/.

Appendix D: Regional Greenhouse Gas Initiative Annual Report

2018 and 2019 Regional Greenhouse Gas Initiative Proceeds Investments Annual Report

2018 and 2019 Plans for the Allocation and Distribution of RGGI Auction Proceeds

In 2007, the Rhode Island General Assembly enacted Chapter 23-82 of the General Laws, entitled Implementation of the Regional Greenhouse Gas Initiative Act. In doing so, the General Assembly declared that “scientific findings indicate that the increase in greenhouse gas emissions, including carbon dioxide, is accelerating the natural greenhouse effect resulting in changes in the Earth's climate” and that “climate changes pose serious health risks to humans, as well as danger to ecosystems worldwide.” The Act enabled Rhode Island to join other states in the formation of the Regional Greenhouse Gas Initiative (RGGI) – the nation’s first mandatory multi-state program to reduce power sector carbon dioxide (CO₂) emissions. In the years since, state participation in RGGI has generated auction proceeds that have been strategically deployed to advance Rhode Island’s energy policy goals, while simultaneously growing clean energy jobs and reducing greenhouse gas emissions. This report provides an overview of the important clean energy programs and investments enabled by RGGI auction proceeds allocated through the state’s 2018-A, 2018-B, 2019-A and 2019-B Allocation Plans.

To effectuate the reduction of greenhouse gas emissions in the electric power generation sector, RGGI establishes a regional cap on the amount of CO₂ pollution that power plants can emit by issuing a limited number of tradable CO₂ allowances. Each allowance, which are allocated through quarterly regional allowance auctions, represents an authorization for a regulated power plant to emit one short ton of CO₂. Individual CO₂ budget trading programs in each RGGI state effectively create a regional market for the allowances, and leverage market forces to determine the most cost-effective means of reducing emissions while fostering market certainty to help drive long-term investment in cleaner energy sources. RGGI consists of nine participating states, including Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont.

In Rhode Island, RGGI auction proceeds are allocated by the state’s Office of Energy Resources (OER) to drive investment in – and expansion of – clean energy resources, including cost-effective energy efficiency and renewables. In doing so, OER seeks to support investment and job growth in Rhode Island’s burgeoning clean energy sector; reduce barriers to consumer adoption of clean energy solutions; place downward pressure on long-term energy costs; and shrink carbon footprints.

As indicated by the program summaries detailed in this report, clean energy investments supported by RGGI auction proceeds are driving the adoption of cleaner, more sustainable energy solutions across public and private sector institutions, and in Ocean State communities. These investments are being made in a manner consistent with the Regional Greenhouse Gas Initiative Act, our State Energy Plan, and broader state energy and environmental policy goals.

RGGI Proceeds Allocation Process

Per statute, OER is authorized to allocate state RGGI auction proceeds for the following purposes:

- Promotion of cost-effective energy efficiency and conservation;
- Promotion of cost-effective renewable non-carbon emitting energy technologies;
- Cost-effective direct rate relief for consumers;
- Direct rate relief for low-income consumers;
- Reasonable compensation to RGGI, Inc.; and
- Reasonable costs of OER and the Department of Environmental Management (DEM) in administering the RGGI program.

Pursuant to RIGL §23-82-5, RGGI, Inc. is authorized to receive, hold, and sell CO2 allowances for the long-term benefit of consumers. The statute also authorizes RGGI, Inc. to conduct the auctions or sales; collect the auction proceeds and transfer such proceeds to OER. OER then distributes and allocates the proceeds of the auctions or sales in accordance with §23-82-6.

To accomplish these purposes, OER, in consultation with DEM and the Energy Efficiency and Resource Management Council (EERMC), periodically draft and implement allocation plans describing how auction proceeds are to be expended. Each proposed allocation plan is made available for public comment and public hearing. A notice is posted on the websites of OER and the Rhode Island Secretary of State announcing a public comment period to accept comments on the proposed plan. OER provides at least thirty (30) day notice of the public hearing. After the public hearing, OER allows an additional ten (10) day period for interested persons to submit data, views or arguments in writing. OER maintains a record of all public comments and responds to each substantive issue raised. It is then that OER finalizes the allocation plan and posts a copy on its website.

Clean energy investments supported by RGGI auction proceeds are driving the adoption of cleaner, more sustainable energy solutions across public and private sector institutions, and in Ocean State communities. These investments are being made in a manner consistent with the Regional Greenhouse Gas Initiative Act, our State Energy Plan, and broader state energy and environmental policy goals.

For more information, please visit OER's RGGI website at: www.energy.ri.gov/policies-programs/programs-incentives/rggi.php.

Summary of RGGI Auction Proceeds Allocated in the 2018-A, 2018-B, 2019-A & 2019-B Allocation Plans

Plan	Finalized	# of Auctions	Auctions Held	Gross Proceeds
2018-A Plan	February 2018	2	September 2017 & December 2017	\$2,020,902.25
2018-B Plan	August 2018	2	March 2018 & June 2018	\$1,870,979.22
2019-A Plan	May 2019	2	June 2018 (partial), September 2018 & December 2018	\$2,445,314.39
2019-B Plan	October 2019	2	March 2019 & June 2019	\$5,085,293.00

RIGL §23-82-6(a)(5) authorizes the reasonable compensation of an entity to administer the auction on behalf of the State of Rhode Island. RGGI, Inc. was compensated \$33,329.33 and \$57,005.01, through the 2018-B and 2019-B Allocation Plans, respectively.

RIGL §23-82-6(a)(6) authorizes the reasonable costs of OER and DEM in administering the RGGI program. The total reimbursement to both entities shall not in any year exceed \$300,000 or ten percent (10%) of the proceeds, whichever is greater. A total of \$1,142,249 was allocated to OER and DEM across the four plans.

After deducting the compensation for RGGI Inc. and state agency administrative expense reimbursement, the balance, including accrued interest and reallocation of funds from previous plans, a total of \$11,993,295 was invested in the following clean energy programs and initiatives:

Supporting Clean Energy Investments throughout Rhode Island Municipalities (\$500,000.00)

Funds have been allocated to support residential, commercial and/or public-sector energy efficiency and/or renewable energy financing transactions made available through the Rhode Island Infrastructure Bank (RIIB).

Through RIIB's Efficient Buildings Fund (EBF), low-interest-rate loans are made available to help finance energy efficiency and renewable energy projects at municipal buildings and school facilities, as well as quasi-governmental agencies. The purpose of this program is to provide financial assistance to local governmental units for deep energy savings projects where the energy savings achieved by the project exceed the debt service.

Previously allocated RGGI funds helped to capitalize several rounds of project financing. To date, RIIB's Efficient Buildings Fund, has supported \$31.3 million in clean energy loans to 12 communities.

For more information on the Rhode Island Infrastructure Bank, please visit: www.riib.org/.

Expanding Solar Adoption, Energy Storage and/or Battery Storage Assets, Solar Development on Brownfields and Carports through the Renewable Energy Fund (\$8,811,260.64)

Funds allocated to the Renewable Energy Fund (REF), housed at Commerce RI, is dedicated to increasing the role of renewable energy throughout the state with the potential to make electricity in a cleaner, more sustainable manner, while stimulating job growth in the green technology and energy sectors of Rhode Island's economy.

Funds are being utilized to support solar PV adoption by homeowners and small businesses; solar development on Brownfields (program announced in March 2019), grants related to carport solar PV projects and to increase the deployment of energy storage and/or battery storage assets throughout the state.

For more information on the Renewable Energy Fund, please visit: www.commerceri.com/finance-business/renewable-energy-fund/.

RIDEM Energy-Saving Trees Program (\$220,000.00)

This program helps Rhode Island homeowners conserve energy and reduce their utility costs. Trees play an important role in cooling streets and homes, filtering air, and reducing stormwater pollution. DEM's program is operated in coordination with Arbor Day Foundation and the Rhode Island Tree Council. The Energy-Savings Tree Program distributes 1000 trees twice per year.

Agricultural Energy Grant Program (\$500,000.00)

A collaborative project of DEM, OER, and the Rhode Island Resource Conservation & Development Area Council, this grant program helps local farmers "green" their operations and benefit from the related energy and cost savings achieved through energy efficiency and renewable energy projects

In December 2018, DEM announced grants to help farmers "green" their operations and save energy and money. "These awards will reduce energy costs and bring clean, reliable, and affordable renewable energy to Rhode Island Farms," said DEM Director Janet Coit. Funded projects include: Barrington Farm School, Pat's Pastured, East Greenwich, Windmist Farm, Jamestown, and Parris St. Pierre, Little Compton. For more information on the Agricultural Grant Program, please visit: www.dem.ri.gov.

Municipal LED Streetlights (\$950,000.00)

Through this initiative Rhode Island municipalities can receive enhanced incentives to support their adoption and installation of energy cost saving LED streetlights and associated control technologies. Conversions from traditional streetlights to more efficient LEDs have the potential to reduce energy consumption and costs by up to 60%.

As of September 2019, twenty-three municipalities have converted or are in the process of converting nearly 70,000 streetlights to LEDs, combined. This represents more than 70% of the total number of municipal streetlights across the Ocean State.

Energy Savings for Low and Moderate Income (\$150,000.00)

Funds are available for a new pilot program designed to help provide energy savings to low and moderate income (LMI) customers and expand the access of both energy efficiency, renewable thermal and solar PV technologies to under-served sectors. The program will be designed in coordination with Rhode Island Housing and National Grid to create a replicable zero-net energy building design, and to install solar PV and air source heat pumps in residential LMI properties that have installed several energy efficiency measures.

Supporting Energy Efficiency Measures for Pascoag Utility District and Block Island Utility District customers (\$862,034.37)

OER is continuing its partnership with the Pascoag Utility District and Block Island Utility District by supporting robust expansion of energy efficiency programs and incentives in these communities. Funds have been allocated to support cooperative investments in and deployment of cost-effective clean energy non-wires solutions that defer or reduce the cost of traditional infrastructure investments.

In 2018 a portion of the funds were allocated to support an energy-saving lighting project at three Burrillville schools (William L. Callahan, Steere Farm and Austin T. Levy). The lighting project will save the school department more than \$27,000 annually.

"Improving the energy efficiency of Burrillville schools is an important investment in our children's future," said State Energy Commissioner Carol Grant. "Not only will these improvements reduce energy costs for the school department, but they will also help foster a better learning environment for students and teachers by improving the quality of lighting, reducing noise and enhancing the comfort of classrooms. We are proud to help support the school department's lighting improvement project and commend the Town of Burrillville for its commitment to energy efficiency upgrades."

For more information on Rhode Island's participation in RGGI and to view the state's past RGGI Auction Proceed Allocation Plans, please visit: www.energy.ri.gov/policies-programs/programs-incentives/rggi.php.