



STATE OF RHODE ISLAND

OFFICE OF ENERGY RESOURCES

State Agency "Lead By Example" Initiative Annual Report

Executive Order 15-17

October 2016



www.energy.ri.gov

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LETTER FROM THE COMMISSIONER

To the Honorable Gina M. Raimondo, Governor of the State of Rhode Island

In accordance with Executive Order 15-17, *State Agencies to Lead By Example in Energy Efficiency and Clean Energy*, I am pleased to provide you with the Office of Energy Resources' (OER's) first annual report evaluating the State's progress toward Lead By Example Executive Order (LBE EO) goals.

As demonstrated by our state's recent 4th place national ranking in energy efficiency programs and policies by the American Council for an Energy Efficient Economy (ACEEE), Rhode Island is an innovative leader in clean energy adoption. Through on-going Lead By Example initiatives, OER and partner state agencies continue to grow "green" jobs, create new investment opportunities, reduce energy costs, shrink the State's carbon footprint, and ensure a more reliable and sustainable energy system. Recent highlights include:

- Procuring 20% of State facility electricity from renewable energy resources;
- Reducing energy consumption across State facilities through energy efficiency projects;
- Procuring alternative fuel vehicles for the light-duty State fleet;
- Driving procurement of rooftop solar arrays for Capitol Hill facilities;
- Overseeing the development of the State's first stretch building code;
- Converting State-owned highway streetlights to cost-effective LEDs with control technology; and
- Saving the State over \$2.3 million in energy supply costs via competitive electricity and natural gas supply auctions.



Together, OER and its partner agencies are setting a course to achieve the LBE EO's robust goals of reducing energy costs by ten percent by FY19; shifting the State's energy supply portfolio to 100 percent renewables by 2025; ensuring a minimum of 25% of new light-duty state fleet purchases and leases are zero-emission vehicles by 2025; and developing a voluntary building stretch code. In addition, renewable energy and energy efficiency projects along with competitive energy procurement processes continue to support the State's burgeoning clean energy sector, reduce public sector energy costs, and mitigate greenhouse gas emissions from State facilities.

Under your continued leadership, these on-going efforts serve as a strong foundation to grow our economy and achieve a secure, cost-effective, and sustainable energy future. Over the next year, OER is committed to furthering progress and coordination among State agencies as we continue to lead by example.

Sincerely,

A handwritten signature in black ink that reads "Carol J. Grant". The signature is fluid and cursive, written over a white background.

Carol J. Grant
Commissioner

INTRODUCTION

On December 8, 2015, Governor Gina M. Raimondo signed *Executive Order 15-17: State Agencies to Lead by Example in Energy Efficiency and Clean Energy*. The Lead by Example Executive Order (LBE EO) sets robust energy reduction targets and clean energy goals for State agencies consistent with the Governor’s broader policy goals that include clean energy industry and job growth; reducing public sector energy costs; diversifying the State’s energy mix; and reducing public sector greenhouse gas (GHG) emissions. The Governor tasked the Rhode Island Office of Energy Resources (OER) with overseeing and coordinating efforts across State government to achieve the following EO goals:

Executive Order 15-17 Goals
<i>Procure 100% of State government electricity consumption from renewable sources by 2025</i>
<i>Achieve an overall 10% reduction in energy consumption below FY2014 levels by FY2019</i>
<i>Post State energy usage publicly and report progress towards goals on an annual basis</i>
<i>Ensure a minimum of 25% of new light-duty state fleet purchases/leases be zero-emission vehicles by 2025</i>
<i>Achieve a high standard of Green Building Operations & Maintenance at all state facilities</i>
<i>Develop a voluntary Stretch Code based on the International Green Construction Code or equivalent by 2017</i>
<i>Reduce the use of natural resources at State facilities</i>
<i>Support the state-wide goal of decreasing overall greenhouse gas emissions by 45% below 1990 levels by 2035</i>
<i>Agencies shall consider other policies to reduce greenhouse gas emissions such as purchasing energy efficient appliances and products, installing electric vehicle charging stations at State properties, and reducing employees’ vehicle miles traveled for work</i>
<i>State agencies shall consider full life-cycle cost analyses in planning and implementing projects</i>

Pursuant to the LBE EO, OER provides this Annual Report to demonstrate compliance with and progress toward achievement of the Governor’s clean energy goals for State agencies. To advance this important work, OER has developed key LBE metrics to measure success across seven comprehensive work categories, including:

- Energy Data Management
- Purchasing Mechanisms
- Energy Efficiency Projects
- Renewable Energy
- Clean Transportation
- Training and Recognition
- Energy Procurement

OER’s LBE EO achievements, progress metrics and on-going efforts within the aforementioned work categories are detailed on the following pages.

ACHIEVEMENT SUMMARY

In December 2015, Governor Gina Raimondo issued an Executive Order directing State agencies to ‘Lead by Example’ by achieving robust clean energy targets and developing clean energy practices. After one year of implementation, Rhode Island State agencies have reduced their energy consumption by 8.3%, saved \$2.3 million from competitive energy procurement processes, and now procure 20% of their electricity supply from “green” energy sources. The Lead by Example initiative is also promoting interdepartmental cooperation, unlocking opportunities to invest in comprehensive energy efficiency and renewable measures that can reduce and stabilize public sector energy costs, shrink government’s carbon footprint, and support Rhode Island’s burgeoning clean energy economy. In the coming months, Rhode Island State government will deploy renewable installations on Capitol Hill and elsewhere, complete the conversion of all State-owned highway streetlights to cost-effective LEDs, and expand electric vehicle charging infrastructure at State facilities, serving as a model for municipalities, businesses, organizations, and citizens as it works to move Rhode Island toward a more secure, cost-effective, and sustainable energy future.

Key accomplishments include:

- Ensuring that 20% of electricity consumed by State facilities comes from renewable energy resources
- Reducing 2016 energy consumption across State facilities by 8.3% compared to 2015
- Supporting the installation of 53 electric vehicle charging stations across the State
- Procuring 10 hybrid/alternative fuel vehicles for the State’s light-duty fleet
- Issuing a request for proposals (RFP) to install rooftop solar arrays on three capitol hill buildings
- Initiating the development of a voluntary building Stretch Code
- Converting State-Owned highway streetlights to LED technology

LEAD BY EXAMPLE PROGRESS METRICS

Executive Order Category	Target	Current Status
Overall Energy Consumption Reduction	10% reduction by end of FY 2019	8.3% ¹ : percent reduction in overall State facilities' energy consumption
Electricity Consumption from Renewables	100% by 2025	20% : percent of State government's electricity consumption is now sourced from renewables
Zero-Emission Vehicles in State's Light-Duty Fleet	25% of new light-duty state fleet purchases or leases be zero-emission vehicles by 2025	42% : percent of light-duty vehicles (purchased or leased since Dec 2015) that are hybrids and/or alternative fuel vehicles 0% : percent of light-duty vehicles (purchased or leased since Dec 2015) that are zero-emission vehicles
Green Building Operations & Maintenance	Train facility managers in green building management	3 : number of facility managers who have completed Building Operator Certification (BOC) training
Stretch Code Development	Complete Stretch Code development by end of 2017	Commercial stretch code is under development and anticipated to be completed by Spring 2017. Residential stretch code will also be pursued in 2017.
Reduction in Greenhouse Gas Emissions	Support the State-wide goal of achieving a 45% reduction in greenhouse gas emissions by 2035	60,901 short tons ² : total lifetime reduction in CO ₂ emissions from State facilities achieved by energy efficiency projects
Other Green Policies	Increase electric vehicle infrastructure	53 : total number of charging stations installed with financial support from OER
Natural Resource Use Reduction	Reduce the use of water in State facilities	To Be Pursued
Other Green Policies	Decrease energy use by appliances	To Be Pursued
Other Green Policies	Decrease miles traveled by State employees for work	To Be Pursued

¹Energy reductions for both electricity and natural gas consumption from January 2016 to August 2016 are compared to year 2015 data. As OER develops a centralized dataset with more historical data the reduction will be compared to base year FY2014. This comparison is also not fully normalized for weather fluctuations. Weather normalization was completed for electricity data and a similar effort is now underway for natural gas data.

²CO₂ reductions were estimated using the EPA's Greenhouse Gas (GHG) Calculator.

ENERGY DATA MANAGEMENT

In order to streamline access to, and improve the accuracy of, state energy usage data and expenditures, OER initiated a process to centralize all State agency utility bills across the electric, natural gas, and delivered fuels sectors. In 2015, OER began receiving, auditing and charging the appropriate accounts for all State agency electricity bills. Natural gas bills were centralized in a similar manner by August 2016. OER anticipates delivered fuels (propane and oil) billing to be centralized by summer 2017.

By collating and providing oversight on State agency utility bills, OER has been able to improve energy usage and cost forecasting, decrease payment errors, and analyze progress toward Lead by Example goals. Importantly, OER has been simultaneously working to increase public and inter-governmental transparency into these important data sets. For example, State agencies are now able to view their individual energy consumption and cost data through an online portal, while aggregated agency energy data is publicly reported at www.energy.ri.gov/leadbyexample/.

OER is also working to analyze the potential benefits associated with implementation of a real-time, comprehensive centralized energy management system that can further enhance our data collection and analysis efforts. At a minimum, this software will assist OER with energy use forecasting, data weather normalization, bill auditing processes, web-based data access, building-specific energy usage and projects, and overall LBE reporting. A public request for proposals will be issued in late-2016 to begin the process of identifying the most appropriate and cost-effective technology solution. As data continues to be centralized, it is expected that the software system will track not only natural gas and electricity, but also delivered fuels, water and sewer usage and expenditures.

In the coming months, OER also aims to enhance agency-level communications and coordination by conducting outreach meetings with state agencies to identify LBE point of contact(s), connect agencies to resources/programs/incentives supported by OER, and establish agency-specific goals to support achievement of overall LBE EO directives. Agency-specific quarterly reports will also help to track agency progress and achievements. In many cases, OER has already begun to work with sister agencies and, in some cases, has helped them advance cost-effective energy-related projects, including those identified in Appendix B.

Lead By Example Webpage:

www.energy.ri.gov/leadbyexample/

PURCHASING MECHANISMS

OER, in partnership with the Division of Purchases, has developed purchasing mechanisms (including Master Price Agreements or MPAs) to streamline the procurement and implementation of cost-effective energy efficiency and renewable energy projects.

For example, in September 2015, *MPA 508 – Energy Efficiency Services* was developed to support turnkey energy efficiency projects. Also, in July 2016, *Continuous Recruitment 44 – Solar Photovoltaic and Wind Turbine System Installation Services* was initiated to support public sector entities interested in developing renewable energy systems at their buildings and campuses. These purchasing mechanisms expedite project implementation by defining proposal requisition processes and providing access to a pool of prequalified vendors.

In addition to the aforementioned efforts, existing MPAs have been updated to support clean energy goals more broadly. Specifically, the State's delivered fuels and heating fuel MPAs were adjusted in May 2016 to: 1) ensure that all State-purchased transportation diesel contains at least 5% biofuel; 2) ensure that all State-purchased #2 heating oil contains 5% biofuel and 95% ultra-low sulfur heating oil; 3) establish options for State agencies and municipalities to purchase 20% biodiesel, 99% biodiesel, and/or 20% biofuel heating oil (B20 BioHeat); and 4) ensure that all State-purchased off-road diesel is ultra-low sulfur (S15).

In the coming months, OER will be supporting other important initiatives to further LBE EO goals within this work category. For instance, a prequalified list of Energy Service Performance Contract companies (ESCOs), available through Continuous Recruitment # 23: Energy Performance Contracting Services, is set to expire in December 2016. OER aims to re-write and re-issue this Continuous Recruitment in order to update the qualified vendor list and to provide clear instructions on how agencies and municipalities can best use ESCo services. Also, the Division of Capital Asset Management and Maintenance (DCAMM) will be working to issue a request for proposals (RFP) to improve overall state fleet services and costs. OER will work with this team to ensure that the EO goal of 25% of new light-duty vehicle leases and/or purchases be zero-emission vehicles can be successfully achieved.

For more information on the MPAs described above, please visit:

www.purchasing.ri.gov/

ENERGY EFFICIENCY PROJECTS

Achieving deep energy savings at existing facilities and implementing above-code new construction projects will assist the State in meeting its LBE EO 10% energy consumption reduction target. OER is working closely with its State agency partners to advance this work.

Currently, OER provides administrative, technical and other support resources to public sector entities as they scope, design, procure, finance, and implement cost-effective energy efficiency projects at their facilities. To streamline the availability and leveraging of existing energy efficiency program incentives, OER worked with the Department of Administration and National Grid to negotiate a Strategic Energy Management Plan (SEMP)³. The SEMP Memorandum of Understanding (MOU) document describes specific incentive structures for energy efficiency projects completed by the State; supports building energy auditing and retro-commissioning efforts; provides a single point of contact for project coordination and technical assistance; and details other support initiatives, such as facilities management training for applicable State employees. The SEMP also establishes energy reduction goals for existing buildings, totaling 24.8 million kWh and 746,500 therms over the next 36 months:

Energy Savings Goals for MOU	FY17	FY18	FY19
Minimum Electric (kWh) Goals	6.7 million	8.7 million	9.4 million
Minimum Gas (Net Therm) Goals	201,000	261,000	284,000

Coupled with the establishment of a comprehensive SEMP, OER has allocated approximately \$7.5 million (since 2015) in Regional Greenhouse Gas Initiative (RGGI) auction proceeds to support cost-effective energy efficiency and renewable energy projects across State government. These dollars are being leveraged with available utility-administered incentives and other funding sources, where available, to build a pool of capital that will drive clean energy investments designed to reduce State energy costs, diversify the government’s energy supply portfolio, and reduce the State’s carbon footprint. Furthermore, OER has been working closely with the Department of Administration to actively support a FY17 request to allocate Rhode Island Capital Budget (RICAP) dollars to substantially enhance available leveraged capital and drive LBE successes in the coming years.

The LBE EO also requires OER to coordinate with the Energy Efficiency Resource Management Council (EERMC), National Grid, and the Green Buildings Advisory Committee to establish a voluntary aspirational or stretch building code by 2017⁴. A stretch code is a building code or compliance pathway that is more aggressive than base code. Also known as “reach codes”, their main purpose is to help buildings achieve higher energy savings and implement advanced building practices. By the end of 2017, both a commercial and a residential stretch code will be available for developers and builders across the state. Use of the stretch code will be voluntary. Importantly, once established, the stretch code will provide additional benefits beyond energy savings, including qualification for energy efficiency program incentives, compliance with the Rhode Island Green Buildings Act for applicable public buildings, and streamlined compliance with other Rhode Island building codes.

³For more information on the State’s SEMP, please see Appendix A.

⁴Other key partners in this effort include the Rhode Island Building Code Commission and Northeast Energy Efficiency Partnerships (NEEP).

All efforts described above are meant to support energy efficiency projects throughout the state and, specifically, in State-owned facilities. For a full list of projects completed and initiated since the signing of the LBE EO, please see Appendix B: Project Status Report.

In the coming months, OER will be meeting with all state agencies to identify comprehensive energy saving projects. Specifically, lighting conversions, retro-commissioning studies, building automation system enhancements, and cost-effective HVAC projects will all be pursued where appropriate. Currently, energy audits are scheduled for at least eight large State buildings administered by DOA. These audits will identify building-specific energy saving opportunities, provide estimated project budgets and specify available National Grid energy efficiency incentives.

RENEWABLE ENERGY

OER, in pursuit of the LBE EO's target of 100% renewable electricity for State facilities by 2025, is providing administrative, technical, financial, and other support resources for state agencies interested in renewable energy projects. Coordination with the Division of Purchases and programs such as the Renewable Energy Fund at Commerce RI is helping to streamline renewable energy procurement.

In addition, the State will be purchasing more than one-fifth of its energy supply needs from renewable resources thanks to the state's Renewable Energy Standard (RES) and use of competitive procurement strategies to exceed mandated renewable energy procurement amounts (see the Energy Procurement section of this report for more details).

Through the remainder of 2016 and into 2017, small scale solar projects are expected to be pursued on several State buildings. In 2017, OER would also like to pilot the use of Power Purchase Agreements (PPAs) to support large-scale renewable energy projects on State properties. A coordinated effort amongst multiple agencies will be needed to pursue a large PPA contract. By working at both the building-scale and acreage-scale, OER hopes to expand the amount of electricity generated by renewables for the State and promote the expansion of clean energy jobs and investments across Rhode Island.

For information related to specific renewable projects under development, please see Appendix B: Project Status Report.



CLEAN TRANSPORTATION

OER anticipates that public sector electric vehicle (EV) charging station infrastructure will become an important priority in the coming year. Specifically, OER is looking to install vehicle charging infrastructure at public locations through its Charge Up! program, which has been made available to State agencies and municipalities. Charge Up! applicants may qualify for up to \$60,000 in incentives to support the purchase and installation of electric vehicle charging stations (Level II or higher) at publically-accessible locations. In addition, applicants that install at least one charging station through this program may also qualify for up to \$15,000 to support the purchase or lease of a new electric vehicle as part of their public sector fleet. Two (2) EV charging stations are already planned for the Public Utilities Commission (PUC) facility in Warwick, while others are being actively considered for installation near the State House. For more information on the Charge Up! program, please visit: www.energy.ri.gov/Transportation/ChargeUp/index.php.

TRAINING & RECOGNITION

Encouraging and promoting green building management, operation, and maintenance practices is vital to achieving and perpetuating energy savings. For this reason, OER and National Grid are providing scholarships for State facility managers to attend Building Operator Certification (BOC) trainings. This training and certification program was created by the Northwest Energy Efficiency Council (NEEC) for building engineers and maintenance personnel. Program graduates are able to make their buildings more comfortable, energy efficient and environmentally friendly by applying system maintenance and optimization skills learned throughout the course. Since the signing of the LBE EO, three Division of Capital Asset Management & Maintenance (DCAMM) personnel have completed the training.

To further green building practices throughout State facilities, OER, in collaboration with National Grid, will offer an additional five (5) scholarships for Building Operator Certification trainings next year. Furthermore, OER aims to roll out a recognition program in 2017 to acknowledge key individuals, projects, and agencies that demonstrate strong leadership in achieving LBE EO goals.



ENERGY PROCUREMENT

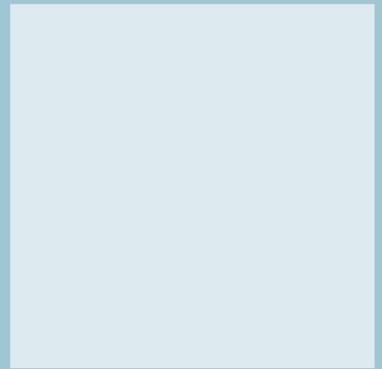
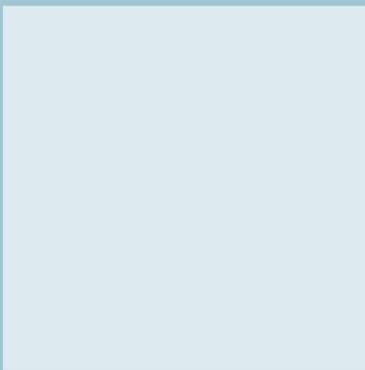
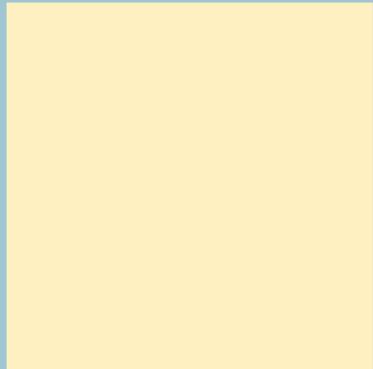
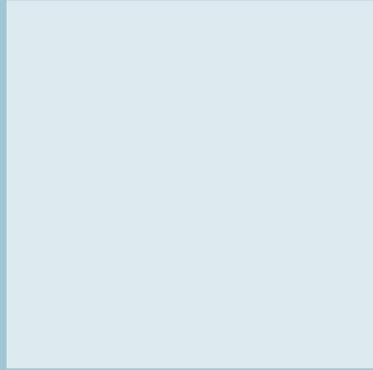
In an effort to reduce public sector energy costs, OER – in partnership with the Department of Administration – is supporting competitive energy supply procurement processes for all Executive agency, Judicial, and State university accounts. These procurements have also been made available to other public sector entities, such as quasi-state agencies and municipalities. By aggregating demand and leveraging economies of scale through a competitive process, OER and DOA aim to reduce energy supply costs and reduce energy price volatility for all participating public facilities.

In 2015, OER and DOA held a reverse auction for electricity supply that aggregated demand across the various branches of State government and one quasi-state entity (Resource Recovery). As a result, for FY16, there was a reduction of \$2.3 million for electricity expenditures compared to FY15. Similar savings compared to FY15 expenditures are expected for FY17. Moreover, the electricity supply contract provides an additional 10% renewable energy supply above Rhode Island’s mandated Renewable Energy Standard (RES). Therefore, in 2017, State facilities will be procuring 21.5 percent of their electricity demand from clean energy resources. Moving forward, OER will work with partner agencies to increase the percent of renewables in the State’s energy supply portfolio while mitigating cost impacts wherever possible.

In August 2016, OER and DOA also collaborated on a successful competitive procurement initiative for natural gas supply. This auction event resulted in competitive per dekatherm prices that are expected to reduce the State’s natural gas expenditures by over \$950,000 in FY17 and \$1.29 million in FY18 when compared to FY16 costs.

Appendix A:

State of Rhode Island Strategic Energy Management Plan



To support achievement of the Governor's LBE EO clean energy goals, OER worked with the Department of Administration and National Grid to develop and implement a Strategic Energy Management Plan (SEMP). The SEMP provides a critical framework in which short- and long-term strategies focused on the identification and execution of cost-saving energy investment initiatives across State facilities can be successfully executed. It will assist the State with integrating clean energy investments within existing capital asset management and maintenance paradigms, whenever possible; provide access to critically-needed comprehensive project management and technical assistance resources; enhance monitoring/measurement and verification to demonstrate performance; and align available funding streams to fully leverage public sector investments with utility-administered incentives.

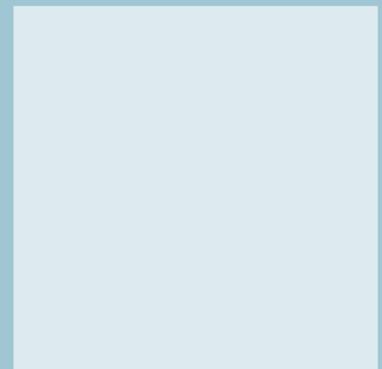
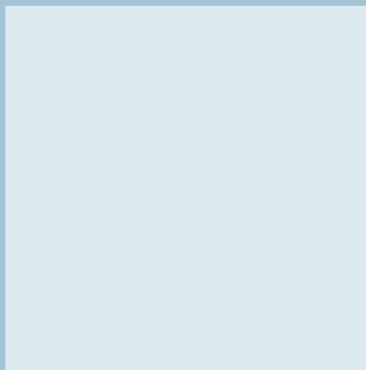
The potential benefits of a successful SEMP are numerous:

- Establishment of a collaborative partnership and development of a comprehensive workplan/timeline linked to energy reduction and sustainability goals, and integrated with existing planning processes;
- Access to comprehensive project management and technical assistance based on an integrated, whole building analysis and integration of new technologies that enables the full development of the asset value of State facilities;
- Achievement of deeper and broader energy savings that are otherwise inaccessible through a more piecemeal approach;
- Higher utility bill savings, lower maintenance costs, and improved human comfort at State facilities resulting from deeper investment in energy efficiency projects;
- Assistance with enhanced monitoring/measurement and verification processes to demonstrate performance and provide a "report card" for annually benchmarked results, including a long-term plan for control upgrades for the State agencies' portfolio of facilities;
- Access to enhanced incentives with added benefits as follows:
 - Screening of measures based on integrated whole building instead of single measure screening, to ensure most energy efficiency measures pass cost screening tools;
 - Incentive structure has no annual cap per account and allows projects to invest in deeper energy efficiency; and
 - On-Bill Repayment (OBR) strategy that provides a financing mechanism including a zero interest loan fund option through National Grid.
- Streamlined and efficient transactional process that includes the following:
 - Priority and fast turnaround time for application process and project implementation;
 - Modified screening process that ensures an upfront determination of incentive amounts for each project;
 - Determination of a fixed cost/savings for Technical Assistance (TA) Studies; and
 - Single point-of-contact with the utility to help manage the State's workplan.
- Access to State staff educational/training opportunities, and other non-energy support provided by the utility.

Appendix B:

Project Status Report*

*Please note that all energy and CO₂ savings are estimated, unless described otherwise.



Recent & On-Going Projects

Project: Powers Building (DOA)

Status: **Completed**

Address: 1 Capitol Hill, Providence.

Description: Lighting replacement and installation of three dual port EV charging stations.

Project Cost: \$351,062.00, supported by RGGI (\$263,581.00)

Energy Svgs.: 238,009 kWh annually; 3,570,135 kWh lifetime

Avoided CO₂: 130.91 short tons annually; 1,963.58 short tons lifetime

Project: Capitol Hill Solar (DOA)

Status: **Under Development**

Address: Capitol Hill, Providence

Description: Furnish and install solar PV roof arrays at Powers, DOT and Canon buildings

System size: Powers 160.32 kW, DOT 67.2 kW and Canon 40.32kW

Project Cost: \$ 800,000.00 (est.)

Energy Svgs.: 351,940 kWh annually; 8,798,500 kWh lifetime

Avoided CO₂: 189.87 short tons annually; 4,746.79 short tons lifetime

Project: DEM Facility Lighting Upgrades

Status: **Completed**

Address: Statewide, including Burlingame State Park (Charlestown), Fort State Park (Newport), Fort Wetherill Marine Fisheries (Jamestown), Lafayette Fish Hatchery (North Kingstown), Pier 9 (Newport) and Port of Galilee (Narragansett).

Description: Lighting conversion to high-efficiency LEDs

Project Cost: \$246,552.00, supported by RGGI (\$100,000.00)

Energy Svgs.: 367,348 kWh annually; 5,510,220 kWh lifetime

Avoided CO₂: 202.04 short tons annually; 3,030.62 short tons lifetime

Project: DOT Highway Light Conversion

Status: **In Progress (65%)**

Address: Statewide

Description: Replacement of approximately 7,566 high-pressure sodium fixtures with LEDs and programmable controls

Project Cost: \$5,825,820, supported by RGGI (\$2,319,452.00) (est.)

Energy Svgs.: 5,657,545 kWh annually; 84,863,175 kWh lifetime

Avoided CO₂: 3,055.07 short tons annually; 45,826.11 short tons lifetime

Project: DOT Maintenance Facilities –

Energy Efficiency Retrofits

Status: **Under Development**

Address: Smithfield, Hope Valley, Scituate, Belleville and Glocester

Description: Lighting and HVAC retrofits

Project Cost: \$141,480.00, supported by RGGI (\$32,500.00) (est.)

Energy Svgs.: 357,099 kWh annually; 5,356,485 kWh lifetime

Avoided CO₂: 192.83 short tons annually; 2,892.45 short tons lifetime

Project: Building #61 (DOA) Energy Efficiency ImprovementsStatus: **In Progress**

Address: Pastore Center, Cranston

Description: Lighting and HVAC retrofits

Project Cost: \$134,758.00, supported by RGGI (\$22,354.00)

Energy Svgs.: 169,461 kWh annually; 2,541,915 kWh lifetime

Avoided CO₂: 96.59 short tons annually; 1,448.89 short tons lifetime**Project: DEM Pilot Solar LED lights**Status: **In progress**

Address: George Washington Campground (Chepachet)

Description: Solar powered LED lighting system (Innovation)

Project Cost: \$77,062.00, supported by RGGI (\$50,000.00)

Other Energy Efficiency Projects, 2015-2016

Electricity - Financial Incentives provided by Energy Efficiency Programs (System Benefit Charge) 2015 -2016					
Street	City	Facility Name	Lifetime MWh	Annual kWh Reduction	Authorized Incentive Amount
50 SERVICE AVE	WARWICK	State DOA - Warwick Lighting	153	11,778	\$6,035.0
Pontiac Ave	Cranston	STATE OF RI Department of Corrections Intake	3,930	327,520	\$89,619.0
50 Jenckes Hill Rd	Lincoln	Davies Career & Tech	21	1,408	\$600.0
50 JENCKES-HILL RD	LINCOLN	Davies Career & Tech Compressor	384	25,609	\$5,660.0
Fort Wetherhill Road	Jamestown	Wetherhill State Park	150	13,164	\$2,820.0
150 Long Wharf	Newport	Pier 9	419	33,477	\$5,280.0
424 Hatchery Rd	NORTH KINGSTOWN	Lafayette Trout Hatchery	404	37,622	\$2,090.0
klondike Road	Charlestown	Burlingame State Park	492	38,992	\$7,770.0
301 Great Island Rd	Narragansett	Port of Galilee	482	39,627	\$5,870.0
4800 Tower Hill Rd	Wakefield	RI Supreme Ct - McGrath Judicial Complex	337	25,922	\$14,825.0
82 Smith St	PROVIDENCE	State House Electric Room LED	33	2,567	\$1,200.0

82 Smith Street	Providence	RI State House- Exterior-Lighting	793	72,278	\$25,775.0
90 SMITH ST	PROVIDENCE	State House Chambers Custom	210	16,177	\$5,366.7
90 SMITH ST	PROVIDENCE	State House Chambers Interior	37	3,140	\$340.0
90 SMITH ST	PROVIDENCE	State House Chambers Additional	151	11,630	\$3,858.3
90 SMITH ST	PROVIDENCE	State of RI - House Library & Govt State Rm	607	46,667	\$15,481.8
1 Capitol Hill	Providence	State of RI- Powers Garage LED	1,740	153,586	\$39,450.0
150 BENEFIT ST	PROVIDENCE	State of RI - Old State House VFD	188	14,454	\$4,000.0
90 SMITH ST	PROVIDENCE	RI State House - Skylight Dome	380	29,226	\$4,200.0
1 Dorrance Plaza	Providence	State of RI Garrahy court (LED Troffer)	45	2,987	\$3,120.0
1 Dorrance Plaza	providence	RI Supreme Court - Garrahy Courtroom	2,551	196,202	\$22,484.0
1 Dorrance Plaza	providence	RI Supreme Court - Garrahy Corridors	241	18,551	\$5,925.0
250 Benefit St	Providence	RI Supreme Court-Licht Courthouse-Atty Gen. Area	141	10,862	\$3,000.0
222 Quaker Ln	Warwick	RI Supreme Court - Kent Country Courthouse	471	36,194	\$5,675.0
250 Benefit St	Providence	RI Supreme Court-Licht Courthouse-Jury Lounge	117	9,009	\$2,150.0
222 Quaker Ln	Warwick	RI Supreme Court - Kent County Parking Garage	382	32,486	\$30,079.5
250 Benefit St	Providence	RI Supreme Court-Licht Courthouse-Cell Block	33	2,540	\$1,190.0
250 Benefit St	Providence	RI Supreme Court-Licht Courthouse - Diff Rooms	183	14,111	\$7,170.0
0 SCITUATE AVE	JOHNSTON	STATE OF RI Rt 95 Exit 1, 2, 4, 5 Weigh Station	1,826	140,455	\$33,450.0
0 SCITUATE AVE	JOHNSTON	STATE OF RI LED Rt 295 Rt 7 Rt 6 to Plainfield Pi	4,160	319,987	\$110,578.8
Washington Hwy	Lincoln	STATE OF RI Route 99 and 146 to Route 116	3,283	252,574	\$69,826.3
439 Tower Hill Road	North Kingstown	RIDOT - Belleville	540	42,655	\$14,598.0
0 TAUNTON AVE	EAST PROVIDENCE	State DOT East Providence Park N Ride	74	5,695	\$2,200.0

**CONTINUED Electricity - Financial Incentives provided by Energy Efficiency Programs
(System Benefit Charge) 2015 -2016**

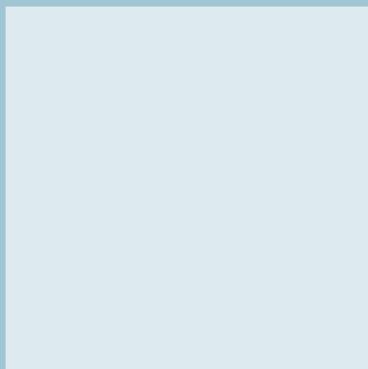
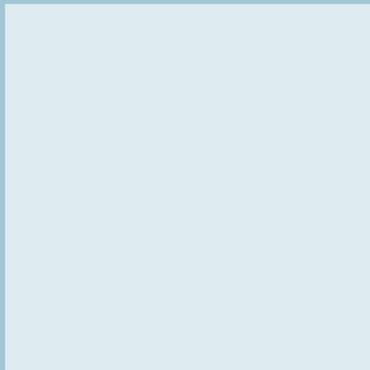
Street	City	Facility Name	Lifetime MWh	Annual kWh Reduction	Authorized Incentive Amount
0 FRENCHTOWN RD	EAST GREENWICH	State DOT East Greenwich 1 Park N Ride	54	4,142	\$1,600.0
0 KINGSTOWN RD	HOPE VALLEY	State DOT Richmond Park N Ride	42	3,227	\$1,000.0
0 TOWER-HILL RD	WAKEFIELD	State DOT South Kingstown Park N Ride	94	7,248	\$2,800.0
0 FISH RD	TIVERTON	State DOT Tiverton 1 Park N Ride	47	3,624	\$1,400.0
0 CENTERVILLE RD	WARWICK	State DOT Warwick 1 Park N Ride	135	10,354	\$4,000.0
0 AIRPORT RD	WARWICK	State DOT Warwick 2 Park N Ride	27	2,071	\$800.0
0 FRANKLIN ST	WARREN	State DOT Warren Park N Ride	47	3,624	\$1,400.0
0 S COUNTRY TRL	EAST GREENWICH	State DOT East Greenwich 2 Park N Ride	27	2,071	\$800.0
0 MAIN ST	BRADFORD	State DOT Hopkinton Park N Ride	67	5,177	\$2,000.0
0 TEN-ROD RD	NORTH KINGSTOWN	State DOT North Kingstown 1 Park N Ride	20	1,553	\$600.0
0 BOSTON-NECK RD	NORTH KINGSTOWN	State DOT North Kingstown 2 Park N Ride	167	12,839	\$2,400.0
0 ANTHONY RD	PORTSMOUTH	State DOT Portsmouth Park N Ride	94	7,248	\$2,800.0
0 COUNTY RD	BARRINGTON	State DOT Barrington Park N Ride	34	2,589	\$1,000.0
0 TOWER-HILL RD	PEACE DALE	RI DOT Govt Ctr Highway Lgts	1,052	98,018	\$37,083.0
0 WASHINGTON HWY	LINCOLN	STATE OF RI LED Rt. 4 & Rt 403 highway lighting	3,403	340,280	\$162,628.1
0 TWIN-RIVER RD	LINCOLN	STATE OF RI LED Rt 146 to Rt 95	4,003	307,955	\$106,471.0
0 CENTERVILLE RD	WARWICK	STATE OF RI LED Rt 295S Intersect w/ 95S	4,521	347,796	\$96,151.0
Harrison Ave	Newport	Fork Adams State Park	1,535	138,967	\$7,580.0
600 MOUNT-PLEASANT AVE	PROVIDENCE	RIC Craig Lee Hall Elec - Perf Ltg	2,776	185,093	\$70,055.0
600 MOUNT-PLEASANT AVE	PROVIDENCE	RIC Gage Hall - Perf Ltg	1,803	120,182	\$45,487.0

600 MOUNT- PLEASANT AVE	PROVIDENCE	RIC Gaige Hall - Custom ltg ctrls	0	0	\$0.0
600 MOUNT- PLEASANT AVE	PROVIDENCE	RIC Craig Lee Hall Elec - Custom Ltg cntrls	0	0	\$0.0
523 Plains St	Kingston	URI - Chemistry Bldg	5,333	266,650	\$49,989.0
80 Washington Street	Providence	URI - Upstream Stairwells	56	7,948	\$2,150.0
523 Plains Rd	Kingston	University of RI Data Center Initiative	5,010	385,364	\$76,045.0
523 Plains Rd	Kingston	University of RI Wallpack Lighting retrofit	3,192	245,571	\$48,881.0
523 Plains Rd	Kingston	University of RI - Exterior Lighting	21	4,246	\$939.0
338 PLAINS RD	KINGSTON	URI-Ryan Center -Exterior Lght Northeast	1,842	141,713	\$27,000.0
89 JEFFERSON BLVD POLE PAD 1	WARWICK	State of RI Public Utilities & Carriers	868	66,767	\$40,765.1
Total			61,231	4,711,469	\$1,345,511.5

Natural Gas - Financial Incentives provided by Energy Efficiency Programs (System Benefit Charge) 2015 -2016					
Street	City	Measure Description	Net Lifetime Gas Therms	Gross Annual Gas Therms	Incentive Amount
1762 LOUISQUISSET PIKEUNIT FIELD	LINCOLN	Rack Oven	15,872.9	2,113.0	\$ 1,000.00
1762 LOUISQUISSET PIKEUNIT FIELD	LINCOLN	Rack Oven	15,872.9	2,113.0	\$ 1,000.00
1762 LOUISQUISSET PIKEUNIT FIELD	LINCOLN	Rack Oven	15,872.9	2,113.0	\$ 1,000.00
1762 LOUISQUISSET PIKEUNIT FIELD	LINCOLN	Rack Oven	15,872.9	2,113.0	\$ 1,000.00
13 POWER RD	CRANSTON	STEAM TRAPS	53,970.0	17,990.0	\$ 5,250.00
13 POWER RD	CRANSTON	STEAM TRAPS	37,779.0	12,593.0	\$ 3,675.00
13 POWER RD	CRANSTON	STEAM TRAPS	53,970.0	17,990.0	\$ 5,250.00
13 POWER RD	CRANSTON	STEAM TRAPS	53,970.0	17,990.0	\$ 5,250.00
13 POWER RD	CRANSTON	STEAM TRAPS	53,970.0	17,990.0	\$ 5,250.00
13 POWER RD	CRANSTON	STEAM TRAPS	53,970.0	17,990.0	\$ 5,250.00

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13 POWER RD	CRANSTON	STEAM TRAPS	53,970.0	17,990.0	\$ 5,250.00
13 POWER RD	CRANSTON	STEAM TRAPS	53,970.0	17,990.0	\$ 5,250.00
13 POWER RD	CRANSTON	STEAM TRAPS	480,659.9	98,174.0	\$ 28,650.00
13 POWER RD	CRANSTON	STEAM TRAPS	16,357.5	3,341.0	\$ 650.00
13 POWER RD	CRANSTON	STEAM TRAPS	1,258.3	257.0	\$ 50.00
13 POWER RD	CRANSTON	STEAM TRAPS	11,324.4	2,313.0	\$ 450.00
13 POWER RD	CRANSTON	STEAM TRAPS	1,258.3	257.0	\$ 50.00
13 POWER RD	CRANSTON	STEAM TRAPS	6,291.4	1,285.0	\$ 250.00
13 POWER RD	CRANSTON	STEAM TRAPS	11,324.4	2,313.0	\$ 450.00
31 POWER RD	CRANSTON	Other	867,490.2	43,572.0	\$ 65,358.00
13 POWER RD	CRANSTON	HVAC Controls and EMS	1,031.0	169.0	\$ 1,200.00
13 POWER RD	CRANSTON	Air sealing of building enclosure, doors, etc.	3,248.5	355.0	\$ 532.50
250 BENEFIT ST	PROVIDENCE	HVAC Controls and EMS	3,355.2	1,100.0	\$ 3,600.00
13 POWER RD	CRANSTON	HVAC Controls and EMS	42,997.7	6,279.0	\$ 9,419.00
13 POWER RD	CRANSTON	HVAC Controls and EMS	76,627.4	11,190.0	\$ 16,785.00
Total			2,326,104.6	425,520.0	\$ 203,369.50

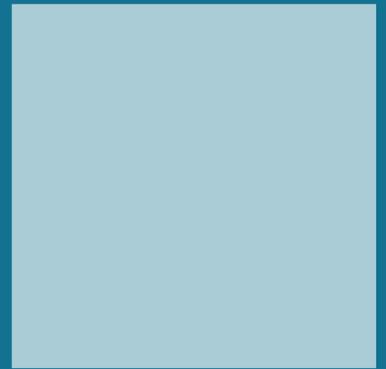
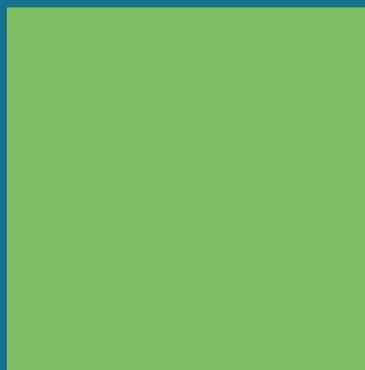
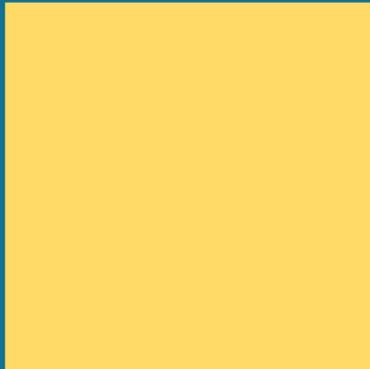
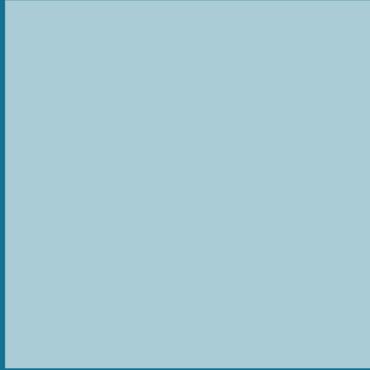
Appendix C: Transportation Data



Month/Year	Total Number of Light Duty Vehicles Procured (codes 1 and 2)	Number of Zero Emission Vehicles	Number Alt. Fuel Vehicles &/o Hybrids
Dec-15	0	0	0
Jan-16	3	0	0
Feb-16	0	0	0
Mar-16	2	0	0
Apr-16	4	0	1
May-16	2	0	2
Jun-16	9	0	5
Jul-16	2	0	1
Aug-16	2	0	1
TOTALS	24	0	10
% of Procured		0.00%	41.67%



Appendix D: Electricity & Natural Gas Data



Electricity Consumption by Fiscal Year for State Agencies

	Monthly kWh Billed				Cumulative kWh Billed				Cumulative change from FY2014		
	FY2014	FY2015	FY2016	FY2014	FY2014	FY2015	FY2016	FY2017			
June	7,976,138	7,610,147	7,913,839	8,450,769	7,976,138	7,610,147	7,913,839	8,450,769	-4.6%	-0.8%	6.0%
Executive Branch	4,728,736	4,387,979	4,528,083	5,037,404	4,728,736	4,387,979	4,528,083	5,037,404	-7.2%	-4.2%	6.5%
RIC/CCRI	2,512,216	2,510,820	2,625,192	2,736,389	2,512,216	2,510,820	2,625,192	2,736,389	-0.1%	4.5%	8.9%
Judiciary	735,186	711,348	760,564	676,976	735,186	711,348	760,564	676,976	-3.2%	3.5%	-7.9%
July	9,397,329	9,123,903	8,228,653	8,834,277	17,373,467	16,734,050	16,142,492	17,285,046	-3.7%	-7.1%	-0.5%
Executive Branch	5,421,498	5,048,376	4,708,745	5,195,559	10,150,234	9,436,355	9,236,828	10,232,963	-7.0%	-9.0%	0.8%
RIC/CCRI	2,998,312	3,155,486	2,745,582	2,863,263	5,510,528	5,666,306	5,370,774	5,599,652	2.8%	-2.5%	1.6%
Judiciary	977,519	920,041	774,326	775,455	1,712,705	1,631,389	1,534,890	1,452,431	-4.7%	-10.4%	-15.2%
August	9,604,550	9,474,472	8,795,864	9,362,186	26,978,017	26,208,522	24,938,356	26,647,232	-2.9%	-7.6%	-1.2%
Executive Branch	5,704,018	6,073,261	5,072,880	5,472,359	15,854,252	15,509,616	14,309,708	15,705,322	-2.2%	-9.7%	-0.9%
RIC/CCRI	2,987,255	2,535,594	2,888,882	3,043,948	8,497,783	8,201,900	8,259,656	8,643,600	-3.5%	-2.8%	1.7%
Judiciary	913,277	865,617	834,102	845,879	2,625,982	2,497,006	2,368,992	2,298,310	-4.9%	-9.8%	-12.5%
September	8,848,066	9,729,718	9,511,679		35,826,082	35,938,240	34,450,034		0.3%	-3.8%	
Executive Branch	5,051,521	5,741,046	5,440,385		20,905,772	21,250,662	19,750,092		1.6%	-5.5%	
RIC/CCRI	2,951,594	3,037,400	3,180,875		11,449,377	11,239,300	11,440,531		-1.8%	-0.1%	
Judiciary	844,951	951,272	890,419		3,470,933	3,448,278	3,259,411		-0.7%	-6.1%	
October	8,084,117	8,620,783	7,798,648		43,910,199	44,559,022	42,248,683		1.5%	-3.8%	
Executive Branch	5,050,480	5,049,083	4,612,925		25,956,252	26,299,744	24,363,018		1.3%	-6.1%	
RIC/CCRI	2,330,150	2,911,104	2,536,100		13,779,527	14,150,404	13,976,631		2.7%	1.4%	
Judiciary	703,487	660,596	649,623		4,174,420	4,108,874	3,909,034		-1.6%	-6.4%	
November	7,666,729	7,918,374	7,416,806		51,576,928	52,477,396	49,665,488		1.7%	-3.7%	
Executive Branch	4,479,812	4,844,152	4,455,459		30,436,064	31,143,896	28,818,476		2.3%	-5.3%	
RIC/CCRI	2,509,195	2,422,931	2,398,092		16,288,722	16,573,335	16,374,723		1.7%	0.5%	
Judiciary	677,722	651,291	563,255		4,852,142	4,760,165	4,472,289		-1.9%	-7.8%	
December	8,688,013	8,572,452	8,181,060		60,264,942	61,049,851	57,846,546		1.3%	-4.0%	
Executive Branch	5,308,194	5,250,794	5,027,277		35,744,260	36,394,692	33,845,752		1.8%	-5.3%	
RIC/CCRI	2,739,091	2,724,204	2,588,830		19,027,812	19,297,540	18,963,552		1.4%	-0.3%	
Judiciary	640,728	597,454	564,953		5,492,870	5,357,619	5,037,242		-2.5%	-8.3%	
January	9,309,038	9,110,142	8,504,300		69,573,979	70,159,991	66,350,849		0.8%	-4.6%	
Executive Branch	5,456,503	5,403,553	5,376,330		41,200,760	41,798,244	39,222,084		1.5%	-4.8%	
RIC/CCRI	3,195,710	3,083,437	2,569,147		22,223,524	22,380,976	21,532,700		0.7%	-3.1%	
Judiciary	656,825	623,152	558,823		6,149,695	5,980,771	5,596,065		-2.7%	-9.0%	
February	8,827,931	8,916,389	8,350,074		78,401,912	79,076,378	74,700,925		0.9%	-4.7%	
Executive Branch	5,329,109	5,166,749	5,003,130		46,529,872	46,964,992	44,225,216		0.9%	-5.0%	
RIC/CCRI	2,894,297	3,138,005	2,834,018		25,117,820	25,518,980	24,366,718		1.6%	-3.0%	
Judiciary	604,525	611,635	512,926		6,754,220	6,592,406	6,108,991		-2.4%	-9.6%	
March	8,796,741	8,460,008	8,371,529		87,198,654	87,536,389	83,072,451		0.4%	-4.7%	
Executive Branch	5,150,300	4,859,287	5,038,563		51,680,172	51,824,280	49,263,776		0.3%	-4.7%	
RIC/CCRI	3,027,819	3,010,762	2,797,438		28,145,640	28,529,744	27,164,156		1.4%	-3.5%	
Judiciary	618,622	589,959	535,528		7,372,842	7,182,365	6,644,519		-2.6%	-9.9%	
April	7,852,591	7,659,262	8,198,247		95,051,244	95,195,649	91,270,699		0.2%	-4.0%	
Executive Branch	4,566,060	4,547,257	4,912,443		56,246,232	56,371,536	54,176,220		0.2%	-3.7%	
RIC/CCRI	2,703,161	2,560,207	2,732,710		30,848,800	31,089,950	29,896,866		0.8%	-3.1%	
Judiciary	583,370	551,798	553,094		7,956,212	7,734,163	7,197,613		-2.8%	-9.5%	
May	7,708,450	7,225,687	7,221,570		102,759,693	102,421,334	98,492,268		-0.3%	-4.2%	
Executive Branch	4,513,829	4,088,752	4,214,046		60,760,060	60,460,288	58,390,264		-0.5%	-3.9%	
RIC/CCRI	2,545,648	2,553,916	2,469,757		33,394,448	33,643,864	32,366,624		0.7%	-3.1%	
Judiciary	648,973	583,019	537,767		8,605,185	8,317,182	7,735,380		-3.3%	-10.1%	
Grand Total	102,759,693	102,421,337	98,492,269	26,647,232					-0.3%	-4.2%	-1.2%

Cumulative change is compared to the base year FY2014

Executive Branch includes: Department Of Behavioral Healthcare, Developmental Disabilities And Hospitals, Department Of Administration, Department Of Human Services, Military Staff, Department Of Corrections, Elementary And Secondary Education, Department Of Labor And Training, Department Of Environmental Management, Department Of Transportation, Department Of Public Safety, Rhode Island Emergency Management Agency, Department Of Attorney General, Public Utilities Commission, Rhode Island Atomic Energy Commission, Department Of Children, Youth, And Families, Public Telecommunications Authority, Department Of Revenue

Weather Normalized Electricity Consumption by Fiscal Year for State Agencies

	Monthly kWh (weather normalized)				Cumulative kWh (weather normalized)				Cumulative change from		
	FY2014	FY2015	FY2016	FY2014	FY2014	FY2015	FY2016	FY2017	FY2014		
June	7,339,423	6,691,649	7,273,516	8,321,858	7,339,423	6,691,649	7,273,516	8,321,858	-8.8%	-0.9%	13.4%
Executive Branch	4,401,673	3,748,228	4,019,930	5,030,066	4,401,673	3,748,228	4,019,930	5,030,066	-14.8%	-8.7%	14.3%
RIC/CCRI	2,206,258	2,231,536	2,451,774	2,665,662	2,206,258	2,231,536	2,451,774	2,665,662	1.1%	11.1%	20.8%
Judiciary	731,492	711,886	801,812	626,130	731,492	711,886	801,812	626,130	-2.7%	9.6%	-14.4%
July	9,541,307	9,315,979	7,484,651	8,568,309	16,880,730	16,007,629	14,758,167	16,890,167	-5.2%	-12.6%	0.1%
Executive Branch	5,573,697	4,934,628	4,241,757	5,172,855	9,975,370	8,682,856	8,261,687	10,202,920	-13.0%	-17.2%	2.3%
RIC/CCRI	2,964,951	3,386,474	2,553,056	2,745,888	5,171,209	5,618,009	5,004,830	5,411,550	8.6%	-3.2%	4.6%
Judiciary	1,002,659	994,878	689,838	649,567	1,734,151	1,706,764	1,491,651	1,275,697	-1.6%	-14.0%	-26.4%
August	10,489,072	10,269,744	8,568,037	9,593,506	27,369,802	26,277,373	23,326,204	26,483,673	-4.0%	-14.8%	-3.2%
Executive Branch	6,316,512	7,068,607	4,953,015	5,716,248	16,291,881	15,751,463	13,214,701	15,919,168	-3.3%	-18.9%	-2.3%
RIC/CCRI	3,120,611	2,230,899	2,822,644	3,097,051	8,291,820	7,848,908	7,827,474	8,508,601	-5.3%	-5.6%	2.6%
Judiciary	1,051,949	970,239	792,379	780,208	2,786,101	2,677,003	2,284,029	2,055,904	-3.9%	-18.0%	-26.2%
September	9,259,352	10,933,343	10,395,194		36,629,153	37,210,717	33,721,398		1.6%	-7.9%	
Executive Branch	5,105,934	6,455,213	5,819,867		21,397,814	22,206,676	19,034,568		3.8%	-11.0%	
RIC/CCRI	3,143,705	3,285,546	3,538,473		11,435,525	11,134,454	11,365,946		-2.6%	-0.6%	
Judiciary	1,009,713	1,192,585	1,036,855		3,795,814	3,869,587	3,320,884		1.9%	-12.5%	
October	7,894,768	8,950,238	7,328,933		44,523,922	46,160,954	41,050,332		3.7%	-7.8%	
Executive Branch	5,158,290	5,149,542	4,284,881		26,556,104	27,356,216	23,319,448		3.0%	-12.2%	
RIC/CCRI	1,955,255	3,111,209	2,368,856		13,390,780	14,245,663	13,734,803		6.4%	2.6%	
Judiciary	781,223	689,487	675,197		4,577,038	4,559,075	3,996,081		-0.4%	-12.7%	
November	7,070,199	7,573,489	6,570,353		51,594,120	53,734,443	47,620,684		4.1%	-7.7%	
Executive Branch	4,020,356	4,749,036	3,971,650		30,576,460	32,105,252	27,291,098		5.0%	-10.7%	
RIC/CCRI	2,316,748	2,144,220	2,094,542		15,707,527	16,389,882	15,829,344		4.3%	0.8%	
Judiciary	733,096	680,234	504,162		5,310,133	5,239,309	4,500,242		-1.3%	-15.3%	
December	9,112,767	8,881,645	8,098,861		60,706,887	62,616,088	55,719,546		3.1%	-8.2%	
Executive Branch	5,677,120	5,562,320	5,115,286		36,253,580	37,667,572	32,406,384		3.9%	-10.6%	
RIC/CCRI	2,776,540	2,746,766	2,476,018		18,484,066	19,136,648	18,305,362		3.5%	-1.0%	
Judiciary	659,108	572,560	507,558		5,969,241	5,811,868	5,007,800		-2.6%	-16.1%	
January	10,354,817	9,957,025	8,745,341		71,061,707	72,573,116	64,464,888		2.1%	-9.3%	
Executive Branch	5,973,738	5,867,838	5,813,392		42,227,320	43,535,412	38,219,776		3.1%	-9.5%	
RIC/CCRI	3,689,778	3,465,232	2,436,652		22,173,844	22,601,880	20,742,014		1.9%	-6.5%	
Judiciary	691,302	623,956	495,298		6,660,543	6,435,824	5,503,098		-3.4%	-17.4%	
February	9,392,603	9,569,519	8,436,889		80,454,309	82,142,632	72,901,776		2.1%	-9.4%	
Executive Branch	5,718,950	5,394,230	5,066,992		47,946,268	48,929,640	43,286,768		2.1%	-9.7%	
RIC/CCRI	3,086,952	3,574,368	2,966,394		25,260,796	26,176,246	23,708,406		3.6%	-6.1%	
Judiciary	586,702	600,922	403,504		7,247,245	7,036,746	5,906,602		-2.9%	-18.5%	
March	9,330,223	8,656,757	8,479,799		89,784,533	90,799,392	81,381,574		1.1%	-9.4%	
Executive Branch	5,361,332	4,779,306	5,137,858		53,307,600	53,708,948	48,424,624		0.8%	-9.2%	
RIC/CCRI	3,353,996	3,319,882	2,893,234		28,614,792	29,496,128	26,601,640		3.1%	-7.0%	
Judiciary	614,896	557,570	448,708		7,862,141	7,594,316	6,355,310		-3.4%	-19.2%	
April	7,441,923	7,055,265	8,133,235		97,226,454	97,854,656	89,514,811		0.6%	-7.9%	
Executive Branch	4,192,852	4,155,246	4,885,618		57,500,452	57,864,192	53,310,244		0.6%	-7.3%	
RIC/CCRI	2,704,680	2,418,772	2,763,778		31,319,470	31,914,900	29,365,418		1.9%	-6.2%	
Judiciary	544,392	481,248	483,840		8,406,532	8,075,564	6,839,149		-3.9%	-18.6%	
May	7,115,364	6,052,871	6,072,706		104,341,819	103,907,528	95,587,518		-0.4%	-8.4%	
Executive Branch	4,075,631	3,193,155	3,453,099		61,576,084	61,057,348	56,763,344		-0.8%	-7.8%	
RIC/CCRI	2,376,895	2,361,108	2,202,147		33,696,364	34,276,008	31,567,564		1.7%	-6.3%	
Judiciary	662,839	498,608	417,461		9,069,371	8,574,172	7,256,610		-5.5%	-20.0%	
Grand Total	104,341,819	103,907,527	95,587,517	26,483,674					-0.4%	-8.4%	-3.2%

Cumulative change is compared to the base year FY2014

Executive Branch includes: Department Of Behavioral Healthcare, Developmental Disabilities And Hospitals, Department Of Administration, Department Of Human Services, Military Staff, Department Of Corrections, Elementary And Secondary Education, Department Of Labor And Training, Department Of Environmental Management, Department Of Transportation, Department Of Public Safety, Rhode Island Emergency Management Agency, Department Of Attorney General, Public Utilities Commission, Rhode Island Atomic Energy Commission, Department Of Children, Youth, And Families, Public Telecommunications Authority, Department Of Revenue

FY	Actual (kWh)	CDD
2014	102,759,696	836
2015	102,421,336	735
2016	98,492,048	916

Weather normalized electricity consumption was estimated based on a fixed effect regression model.

Model specification was determined based on R-squared and Akaike information criterion. R-squared=0.9737

Regression's model functional form: $Y_{it} = \alpha_i + \beta X_{it} + \epsilon_{it}$, Y_{it} is the dependent variable observed (kWh) for agency (i) at time (t), ϵ_{it} = error term,

X_{it} : time-variant regressor (CDD), CDD: Cooling Degree Days

CDD: The number of degrees that a day's average temperature is above 65o Fahrenheit and facilities start to use air conditioning.

Weather data provided by National Center for Environmental Information - National Oceanic and Atmospheric Administration (NOAA)

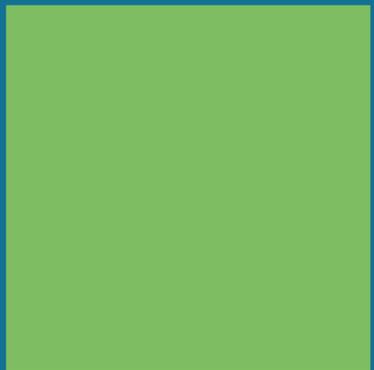
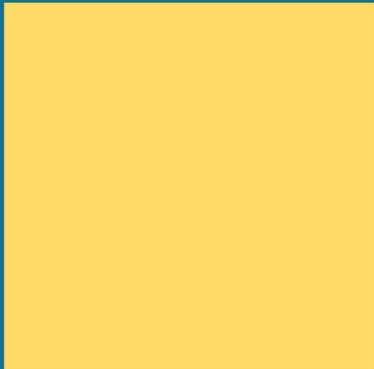
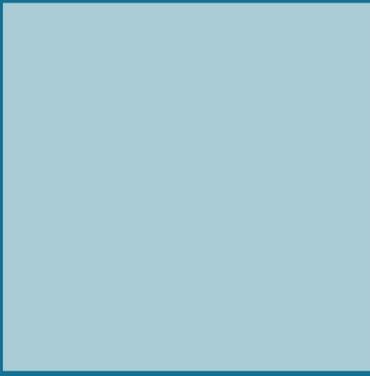
Natural Gas Consumption by Fiscal Year for State Agencies (Monthly Therms Billed)					
	FY2015	FY2016	Change from previous year	FY2017	Change from previous year
July		872,068		891,496	2.2%
Executive Branch		865,878		885,906	
Judiciary		6,190		5,590	
August		934,939			
Executive Branch		930,006			
Judiciary		4,933			
September		825,353			
Executive Branch		819,257			
Judiciary		6,096			
October		740,590			
Executive Branch		721,648			
Judiciary		18,942			
November	965,856	860,131	-10.9%		
Executive Branch	948,303	844,830			
Judiciary	17,553	15,301			
December	1,231,767	961,327	-22.0%		
Executive Branch	1,196,205	931,148			
Judiciary	35,562	30,179			
January	1,416,850	1,211,898	-14.5%		
Executive Branch	1,364,510	1,181,948			
Judiciary	52,340	29,950			
February	1,421,716	1,208,002	-15.0%		
Executive Branch	1,351,574	1,147,093			
Judiciary	70,142	60,909			
March	1,407,945	1,080,630	-23.2%		
Executive Branch	1,351,276	1,038,804			
Judiciary	56,669	41,826			
April	960,386	909,717	-5.3%		
Executive Branch	926,559	880,427			
Judiciary	33,827	29,290			
May	831,698	741,048	-10.9%		
Executive Branch	813,160	718,069			
Judiciary	18,538	22,979			
June	794,082	784,218	-1.2%		
Executive Branch	785,221	769,917			
Judiciary	8,861	14,301			

Executive Branch includes: Department Of Behavioral Healthcare, Developmental Disabilities And Hospitals, Department Of Administration, Department Of Human Services, Military Staff, Department Of Corrections, Elementary And Secondary Education, Department Of Labor And Training, Department Of Environmental Management, Department Of Transportation, Department Of Public Safety, Rhode Island Emergency Management Agency, Department Of Attorney General, Public Utilities Commission, Rhode Island Atomic Energy Commission, Department Of Children, Youth, And Families, Public Telecommunications Authority, Department Of Revenue

Energy Consumption for State Agencies (in MMBTU)							
Month	Year	Energy	2015 Cumulative Energy	Year	Energy	2016 Cumulative Energy	Cumulative Change from previous Year
January	2015	175,658.00	175,658	2016	151,029.00	151,029	-14.02%
February	2015	174,823.00	350,481	2016	149,587.00	300,616	-14.23%
March	2015	170,331.00	520,812	2016	136,996.00	437,612	-15.98%
April	2015	120,111.00	640,923	2016	118,722.00	556,334	-13.20%
May	2015	103,822.00	744,745	2016	94,824.90	651,159	-12.57%
June	2015	104,225.00	848,970	2016	106,816.00	757,975	-10.72%
July	2015	112,744.00	961,714	2016	118,385.00	876,360	-8.88%
August	2015	122,728.00	1,084,442	2016	118,175.00	994,535	-8.29%
September	2015	118,004.00	1,202,446				
October	2015	99,065.30	1,301,511				
November	2015	108,431.00	1,409,942				
December	2015	123,766.00	1,533,708				

* Energy consumption includes Electricity and Natural Gas

* Electricity and Natural Gas consumption account for more than 95% of the total energy consumption



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