

# **Town of Seekonk, Massachusetts**

## **Energy Reduction Plan**

Prepared by the Southeastern Regional Planning and Economic Development District (SRPEDD) with support from the Town of Seekonk



**In Fulfillment of the  
Massachusetts Green Communities Grant Program  
Criterion #3**

**October 2018**



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# I. Purpose and Acknowledgements

## A. Letter from the General Government Verifying Adoption of the Energy Reduction Plan



# TOWN OF SEEKONK

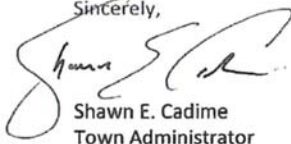
October 25, 2018

To Whom It May Concern:

Please be advised that on October 24, 2018, the Select board of the Town met at a duly noticed and regularly scheduled meeting and voted to adopt the Energy Reduction Plan for Criterion 3 of the Green Communities Application for Designation. The Select board was given copies of the plan for review prior to the meeting.

The Select board voted unanimously to adopt the plan and the minutes of that meeting include the vote.

Sincerely,



Shawn E. Cadime  
Town Administrator

100 Peck Street, Seekonk, Massachusetts 02771

B. Letter from the School District Verifying Adoption of the Energy Reduction Plan



**Seekonk Public Schools**  
Administrative Offices  
[www.seekonkschools.org](http://www.seekonkschools.org)

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**DR. RICH DROLET**  
Superintendent of Schools

**JILL BRILHANTE**  
Finance Administrator

**ZACHARY WADDICOR**  
Asst. Superintendent for Teaching & Learning

**SUSAN DOE**  
Director of Special Education

October 24, 2018

MA Department of Energy Resources  
Green Communities Division  
100 Cambridge Street, Suite 1040  
Boston, MA 02114

To Whom It May Concern,

Please be advised that the Seekonk Public Schools' hereby adopt the *Energy Reduction Plan* of the Town of Seekonk's Green Communities Application for Designation.

Thank you for your kind attention.

Sincerely,

Rich Drolet, Ed.D.  
Superintendent of Schools

Cc: Kim Sluter, Chair, Seekonk School Committee  
Jim Roy, Supervisor of Buildings & Grounds

**25 Water Lane • Seekonk, MA • 02771-4615 • Tel (508) 399-5106 • Fax (508) 399-5128**

*The Seekonk Public Schools strives to provide a safe, respectful, and supportive learning environment in which all students can thrive and succeed in its schools. The Seekonk Public Schools prohibits discrimination on the basis of race, color, sex, age, gender identity, disability, religion, national origin, homelessness, or sexual orientation and ensures that all students have equal rights of access and equal enjoyment of the opportunities, advantages, privileges, and courses of study.*

### C. List of Contributors

The collaborative efforts of the offices of Seekonk Town Administrator Shawn E. Cadime, Director of Finance Bruce Alexander, Town Planner John J. Aubin III, and Seekonk Public Schools Supervisor of Buildings and Grounds James Roy. MA Department of Energy Resources Green Community Regional Coordinator Seth Pickering were all vital in the production this Plan.

Much of the information in this Plan was derived from energy audits performed by Prism Energy Services, led by Janet Lukas and by Energy Source, led by Dalton Ling. Additional technical assistance was provided by the Southeastern Regional Planning and Economic Development District (SRPEDD), the author of this Plan.

## II. Executive Summary

### A. Narrative Summary of the Town

The Town of Seekonk is located in southeastern Massachusetts in western Bristol County. It is located 48 miles southwest of Boston and 8 miles east of Providence, Rhode Island. The town has an approximate area of 18.4 square miles and is bordered by Attleboro on the north; Rehoboth on the east; Barrington, Rhode Island and Swansea on the south; and East Providence and Pawtucket, Rhode Island on the west. According to the 2010 U.S. Census, Seekonk had a population of 13,722, having experienced a 2.2% increase in population since 2000.

Seekonk was originally settled in the early seventeenth century and was part of Rehoboth, East Providence and Pawtucket Rhode Island over the next century, before incorporating as its own community in 1812. Originally a farming community, its economy expanded into the industrial sector in the 19th century, but remained primarily agricultural into the earlier 20<sup>th</sup> century.

Today, Seekonk is a suburban community for people who work in Boston, Massachusetts and Providence, Rhode Island. Seekonk's population grew steadily from the 1950 through 1990, but has slowed considerably since that time. Seekonk is accessible to the larger southeastern Massachusetts region and Rhode Island via the east-west Routes 6 and Interstate 195 which passes through the southern part of town, Route 44 which pass through the center of town and the north-south Route 152.

### B. Summary of Municipal Energy Uses

- Total Number of Municipal Buildings: 10
- Total Number of Municipal Vehicles: 75
- Total Number of Street Lights: 480
- Total Number of Traffic Lights: 0
- Water & Sewer: The Town of Seekonk is serviced for water by the Seekonk Water District and sewer is disposed of onsite via septic systems.

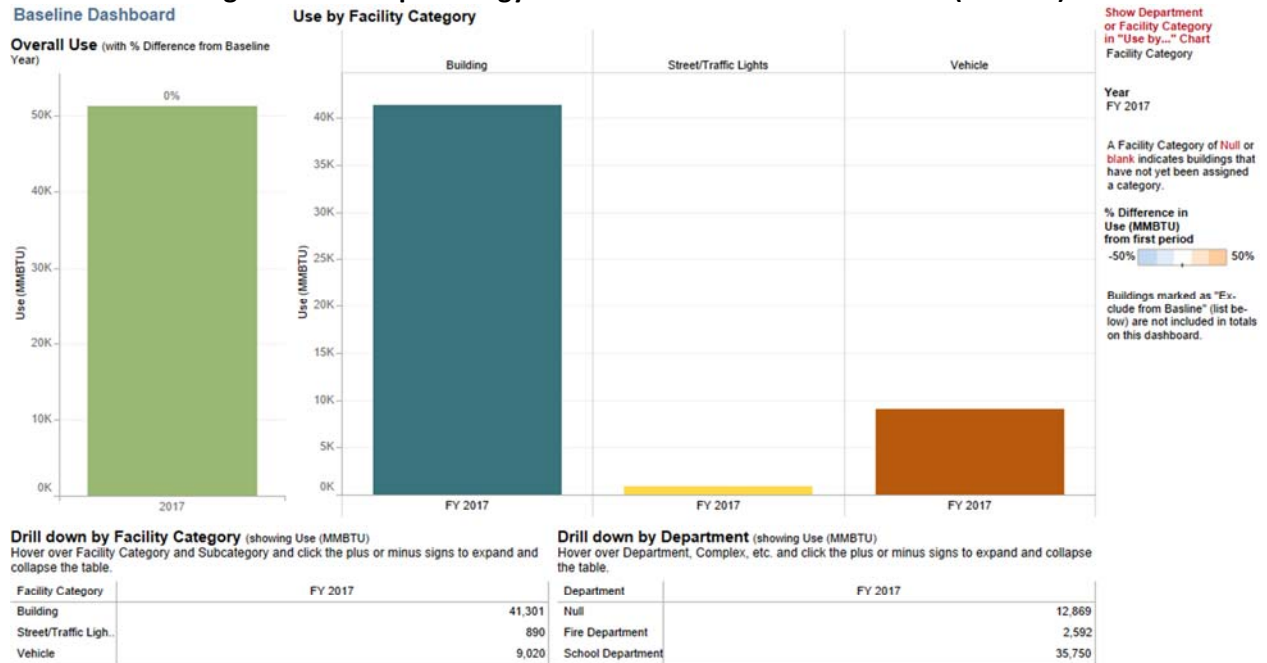
**Table 1: Municipal Energy Use Summary**

	<b>Number</b>	<b>Ownership</b>
<b>Buildings</b>	<b>10</b>	
Natural Gas Heat	10	Municipality
<b>Vehicles</b>	<b>75</b>	
Non-Exempt	10	Municipality
Exempt	65	Municipality
<b>Street Lights</b>	<b>480</b>	Municipality
<b>Traffic Lights</b>	<b>0</b>	Municipality

### C. Summary of Energy Use Baseline and Plans for Reductions

This Energy Reduction Plan commits Seekonk to reduce energy use in municipal facilities by at least 20% compared to Fiscal Year 2017 over five years. In the baseline year, the town used 51,211 MMBTUs of energy, which means the town must reduce usage by at least 10,242 MMBTUs over the following five-year period.

**Figure 1: Municipal Energy Use Baseline Dashboard from MEI (FY 2017)**





Seekonk has identified energy savings measures in each facility category to reduce energy use 20% based on the total baseline usage, as illustrated in Table 2.

**Table 2: Summary of Municipal Energy Use and Reductions**

<b>Facility Category</b>	<b>MMBTU Used in Baseline Year</b>	<b>% of Total MMBtu Baseline Energy Consumption</b>	<b>Projected Planned MMBtu Savings</b>	<b>Savings as % of Total MMBtu Baseline Energy Consumption</b>
<b>Buildings</b>	41,301	80.6%	10,593	20.7%
<b>Vehicles</b>	9,020	17.6%	0	0.0%
<b>Street/Traffic Lights</b>	890	1.7%	441	0.9%
<b>Water/Sewer/Pumping</b>	N/A	N/A	N/A	N/A
<b>Total</b>	<b>51,211</b>	<b>100%</b>	<b>11,034</b>	<b>21.6%</b>

### III. Energy Use Baseline Inventory

A. Identification of the Inventory Tool Used: The Town of Seekonk used the Department of Energy Resources (DOER) MassEnergyInsight (MEI) web-based energy inventory and analysis tool.

B. Identification of the Baseline Year: Fiscal Year (FY) 2017 will serve as the baseline year. FY 2017 ran from July 1, 2016 to June 30, 2017. This will give the Town until June 30, 2022 (FY 2018 – FY 2022) to reach its 20% energy reduction goal.

C. Municipal Energy Consumption for the Baseline Year (FY 2017): In baseline year, the town used 52,570 MMBTUs of energy. The Appendix presents energy use for each municipal facility in MMBTUs and native units.

- Buildings: Seekonk's 10 buildings use 41,301 MMBTUs, approximately 80.6% of Seekonk's total municipal energy use. The buildings with the largest energy use are Seekonk High School (12,553 MMBTUs) and Dr. Kevin M. Hurley Middle School (10,039 MMBTUs), as shown in Figure 2.
- Street/Traffic Lights: There are 480 streetlights and 0 traffic lights in Seekonk. These lights consume 890 MMBTUs, 1.7% of the Town's energy use.
- Vehicles: Seekonk's 75 municipal vehicles use 17.6% of the baseline total, or 9,020 MMBTUs.
- Water/Sewer Facilities: The Town of Seekonk is serviced for water by the Seekonk Water District and sewer is disposed of onsite via septic systems.

**Table 3A: Municipal Energy Consumption for FY2017, Native Fuel Units**  
**ERP Guidance Table 3a - Municipal Energy Consumption for 2017 (Native Fuel Units)**

		2017			
		Electric (kWh)	Gas (therms)	Gasoline (gallons)	Diesel (gallons)
Building	Dr. Kevin M. Hurley MS	544,175	81,824		
	Station #1	1,288			
	George R Martin ES	346,161	60,876		
	Library	121,040	7,503		
	Public Safety	396,869	12,334		
	Mildred Aitken ES	288,320	49,053		
	Seekonk HS	1,170,732	85,585		
	Public Works	27,722	3,651		
	Town Hall	104,789	9,786		
	<b>Total</b>	<b>3,001,096</b>	<b>310,612</b>		
Street/Traffic Lights	Traffic Signal/Street Light	260,771			
	<b>Total</b>	<b>260,771</b>			
Vehicle	Vehicles			48,665	21,480
	<b>Total</b>			<b>48,665</b>	<b>21,480</b>
<b>Grand Total</b>		<b>3,261,867</b>	<b>310,612</b>	<b>48,665</b>	<b>21,480</b>

**Table 3B: Municipal Energy Consumption for FY2017, MMBTU**  
**ERP Guidance Table 3b - Municipal Energy Consumption for 2017 (MMBTU)**

Please make sure that any data submitted to DOER contains complete Data!

		2017				Total
		Diesel	Electric	Gas	Gasoline	
Building	Dr. Kevin M. Hurley MS		1,857	8,182		10,039
	Station #1		4			4
	George R Martin ES		1,181	6,088		7,269
	Library		413	750		1,163
	Public Safety		1,354	1,233		2,588
	Mildred Aitken ES		984	4,905		5,889
	Seekonk HS		3,995	8,559		12,553
	Public Works		95	365		460
	Town Hall		358	979		1,336
	Total		10,240	31,061		41,301
Street/Traffic Lights	Traffic Signal/Street Light		890			890
	Total		890			890
Vehicle	Vehicles	2,986			6,034	9,020
	Total	2,986			6,034	9,020
<b>Grand Total</b>		<b>2,986</b>	<b>11,129</b>	<b>31,061</b>	<b>6,034</b>	<b>51,211</b>

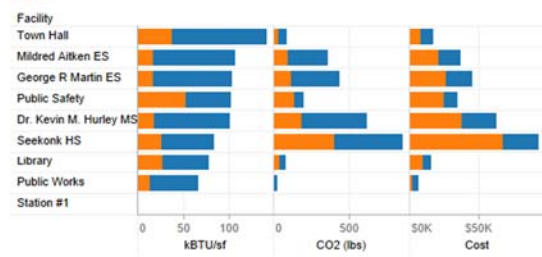
## Figure 2: MEIs Buildings to Target Dashboard

In Figure 2 below, the points further to the right have a higher energy use per square foot (i.e. less energy efficient), while the points higher up use more total energy. Seekonk High School, for example, uses the most energy of any building in Seekonk.

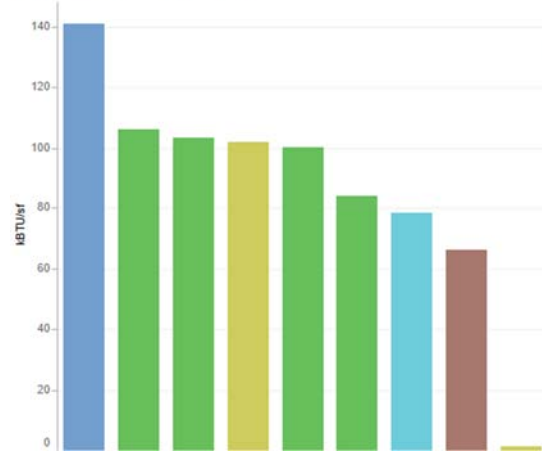
### Buildings to Target

This dashboard compares buildings to one other on an energy use per area metric, measured as kBtu/square foot. In the quadrant chart on the right, buildings with the highest energy use and worst efficiency (as compared to other buildings in your portfolio) are in the upper right hand quadrant. Facilities of the types Open Space, Water/Sewer, Street/Traffic Lights, and Vehicles are not displayed. Diesel and Gasoline records attached to a building are not included in the kBtu/SF calculation.

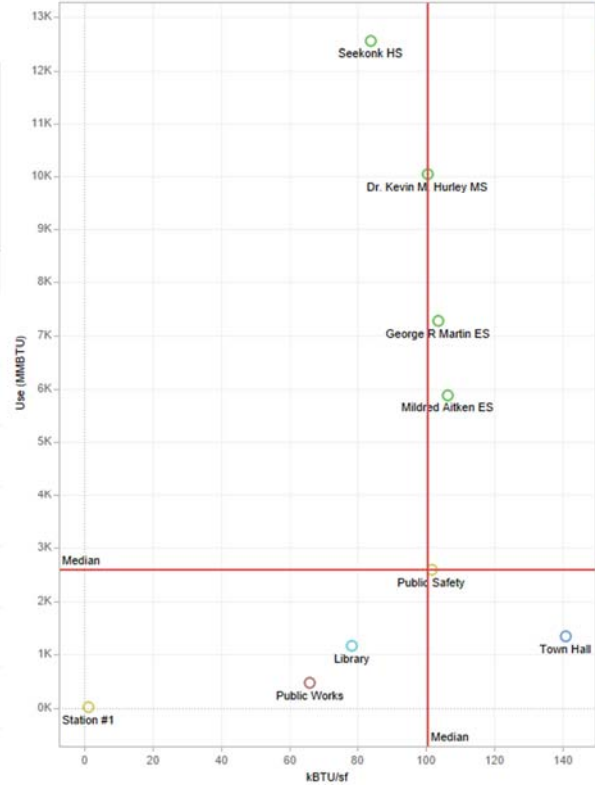
### Building Efficiency, Emissions and Cost



Select a building name above to see how efficient it is compared to your other buildings. Lower numbers indicate greater efficiency.



### Efficiency and Use



Building Subcategory  
Click to highlight and unhighlight

- Administration
- Library
- Public Safety
- Public Works
- School

Building Subcategory All

Year FY 2017

Fuel types All

## IV. Energy Reduction Plan

### A. Narrative Summary

As shown below, the town has identified energy savings measures to reduce usage from FY 2017 by 10,593 MMBTUs or 20.7%.

#### Prism Energy Services Audit

##### ▪ **Dr. Kevin M. Hurley Middle School**

###### Rooftop Unit Replacement

- Remove and properly dispose of two (2) cooling only AAON RTUs, model RH-20-2-EO-750
- Supply and install two (2) Daikin RTUs or equivalents
- Replace the likely 80% inefficient boiler with a new, more efficient 95% boiler.

##### ▪ **Mildred H. Aitken Elementary School**

###### Zone Circulator Motor Replacement

- Remove and dispose of five (5) ITT Bell & Gossett zone circulating pump motors
- Provide and install five (5) Grundfos ECM motors with integral CFDs
- Replace the likely 80% inefficient boiler with a new, more efficient 95% boiler.

###### EC Motors on Univents

- Remove and dispose of standard motors in univents (qty. 12)
- Provide and install 12 new EC motors in unit ventilators

###### Rooftop Unit Replacement

- Remove and properly dispose of two (2) cooling only AAON RTUs, model RH-20-2-EO-750
- Supply and install two (2) Daikin RTUs or equivalents

##### ▪ **Human Services (Senior Center)**

###### Energy Management System

- Supply and install building automation controls to existing system consisting of:
  - ❖ A new WebView Graphical User interface
  - ❖ New DDC controls for mechanical systems including one (1) Lochinvar B-1 hanging boiler currently controlled by a standalone JCI FX controller and two (2) Toshiba Carrier condensing units and the 13 associated indoor cassettes
  - ❖ Remove 13 Toshiba Carrier programmable thermostats, model RBC-AMS54E-UL and replace with DDC temperature sensors
  - ❖ Ability to view setpoints and controls via a new town-wide system through a web-based graphical user interface

(Not included in the scope of work is Toshiba Gateway modification to provide the BACnet variables)

###### Weatherization

- Exhaust fan air-sealing
  - ❖ 3 exhaust fans, total 15 LF
- Skylights air-sealing
  - ❖ 10 skylights, total 100 LF

- Windows air-sealing
    - ❖ Total 900 LF
  - Roof-wall Joints air-sealing
    - ❖ 1-line at <14' working height, total 400 LF
  - Soffit air-sealing
    - ❖ 400 LF to match roof-wall (need to verify)
- **Public Library**
    - Rooftop Unit (RTU) Replacement
      - Remove, demo, and properly dispose of existing Trane RTU
      - Provide and install a new rooftop unit with integrated controls (Trane or Daikin)
    - Lighting and Controls
      - Replace the existing 241 light ballasts with 284 new efficient light ballasts.
  - **Public Safety Complex**
    - Pipe Insulation
      - Pipe re-insulation
        - ❖ Replace air handler unit pipe insulation (3" diameter), total 12 LF
    - Lighting and Controls
      - Replace the existing 396 light ballasts with 396 new efficient light ballasts.
  - **Town Hall**
    - Lighting and Controls
      - Replace the existing 191 light ballasts with 191 new efficient light ballasts.
  - **Banna Fire Department**
    - Lighting and Controls
      - Replace the existing 74 light ballasts with 74 new efficient light ballasts.
  - **Department of Public Works**
    - Programmable Thermostats
      - Remove and properly dispose of existing manual thermostats
      - Provide, install, and program four (4) programmable, Wi-Fi enabled thermostats with temperature setpoints and schedules per the DPW staff.
    - Plug Load Controllers
      - Install plug load controller in office and break room
      - Set controllers to shut off AC units during unoccupied periods.

## Energy Source Audit

### **Install Condensing Boilers**

It is recommended new condensing boilers are installed at a few buildings at Seekonk. Condensing boilers (average efficiency 92%) can obtain a much higher efficiency than the standard non-condensing boiler (average efficiency 80%). The scope of this work includes the following:

- Supply and install condensing boilers
- Removal and disposal of existing boilers and all necessary piping and components of the old system no longer required
- Installation of direct venting system for combustion air and exhaust air
- Install outside air controls for maximum efficiency
- Commissioning and startup of new boiler systems

By implementing this measure at Seekonk High School, the Martin Elementary School, the Aitken Elementary School, and the Seekonk Public Safety Building, the town will save 28,537 therms of gas and \$34,245 annually.

### **Install Energy Management Systems**

It is recommended that an Energy Management System will be installed or will replace the existing obsolete systems. Energy Savings will also occur from the new furnished controls to tighten and refine building temperature conditions. In conjunction with the local controllers and their energy savings features, it will also allow for remote control, monitoring and alarming of the mechanical equipment.

The full scope of work is shown below:

- Provide and install new controllers for the listed mechanical equipment above
- Provide and install a supervisory controller which will include graphics, trend data and email alerts.
- Provide and install DDC actuators to replace any pneumatic actuators
- Field commissioning, graphical interface and checkout.
- Field Training and O&M Manuals and documentation.
- Classroom Training
- Provide all necessary controls, programming and graphics to provide a fully functional control system.

The savings from this measure will result in the following control strategies:

- Temperature Setback which will reduce the facility temperature setpoint during unoccupied hour
- The pumps/fans will turn off during unoccupied hours unless temperature drops below 35o F in which they will turn on to maintain night setback temperature.
- Demand Control Ventilation (DCV) which allows the minimum required outside air to be delivered to each room during the heating/cooling months.

By implementing this measure at the Martin Elementary School, the Aitken Elementary School, the Seekonk Library, Seekonk Town Hall, and the Seekonk Public Safety Building, the town will save 95,999 kWh of electricity, 10,761 therms of gas, and \$30,193 annually.



### **Install Building Weatherization Measures**

By implementing this measure, the reduction in heat loss/heat gain will occur which will lead to energy savings. The scope of work includes the following:

- Caulking
- Door Weather Stripping
- Overhang Air Sealing
- Overhead Door Weather Stripping
- Roof Air Barrier Retrofit
- Roof Insulation
- Roof-Wall Intersection Air Sealing
- Wall Air Sealing

By implementing this measure at Seekonk High School, the Hurley Middle School, the Martin Elementary School, the Aitken Elementary School, Seekonk Town Hall, the Seekonk Public Safety Building, the Seekonk Library, and the Seekonk Department of Public Works the town will save 38,810 kWh of electricity, 16,795 therms of gas, and \$27,140 annually.

### **Install Demand Control Ventilation**

It is recommended that the current Energy Management Systems at Seekonk High School and the Martin Elementary School are expanded or an Energy Management System is installed to include Demand Control Ventilation. This will also include furnishing and installing duct CO2 sensors for any Air Handler Units/ Rooftop Units. The scope of work includes the following:

- Each HVAC equipment will include a non-proprietary field controller (if applicable)
- Furnish and Install a CO2 Sensor for each Air Handling Units or Rooftop Units.

By implementing this measure at Seekonk High School and the Martin Elementary School, the town will save 38,896 kWh of electricity, 17,215 therms of gas, and \$27,659 annually.

### **Install High Efficiency Rooftop Units**

It is recommended a new high efficiency Rooftop Unit is installed at the Seekonk Library which can obtain a much higher efficiency than the standard RTUs. The current unit has also been there for over 25 years; which has resulted in efficiency losses over time. The scope of this work includes the following:

- Supply and install new high efficiency 40 Ton Rooftop Unit
  - o Equipped with Variable Frequency Drive
  - o BACnet enabled
- Removal and disposal of existing RTUs
- Reconnect into current gas line and electrical as well
- Utilizing existing curbs of existing Rooftop Units

By implementing this measure at Seekonk Library, the town will save 7,031 kWh of electricity, 163 therms of gas, and \$1,462 annually.

### **Install Mechanical Insulation**

It is recommended that the bare tank, and valve is insulated with cellular insulation. By implementing this measure, the reduction in heat loss will accrue, which will lead to energy savings. The scope of work includes the following:

- Insulation of pipes, valves, fittings and tanks to meet the insulation requirements of the fluid temperature in the pipe
- Utilize/install pipe covering/jacket to protect the insulation material as required in the work area.

By implementing this measure at Seekonk High School, the Hurley Middle School, the Martin Elementary School, the Aitken Elementary School, the Seekonk Public Safety Building, and the Seekonk Department of Public Works, the town will save 8,990 therms of gas and \$10,788 annually.

### **Install Variable Frequency Drives/Motors**

It is recommended Variable Frequency Drives (VFDs) and high efficiency motors (if applicable) are installed on each pump/fan and controlled via differential pressure, and temperature, allowing for electrical savings. The scope of this work includes the following:

- Supply and install nine Variable Frequency Drives (VFDs) in place of the existing motor starters
- Remove and replace four existing motors with new NEMA premium motors
- Start-up and testing of the new VFDs, and motors
- Integrate into Energy Management System (if applicable)
- Warranty for one year

By implementing this measure at Seekonk High School, the Aitken Elementary School, the Seekonk Library, and the Seekonk Public Safety Building, the town will save 58,762 kWh of electricity and \$10,577 annually.

### **Install Kitchen Fan Motors**

It is recommended a kitchen hood control system is installed on the ventilation and exhaust fans and controlled based on temperature. When the kitchen ovens and grills are turned on and the kitchen is active; the exhaust temperature will increase, and this will allow the Variable Frequency Drives to turn on to satisfy exhaust conditions. When the kitchen equipment gets turned off, the VFDs will ramp down which will reduce the schools' energy consumption. The scope of this work includes the following:

- Supply and install Variable Frequency Drives (VFDs) in place of the existing motor starters for kitchen exhaust and ventilation fans
- Install temperature/optic sensors in the kitchen exhaust ductwork
- Start-up and testing of the new VFDs
- Warranty for one year

By implementing this measure at the Martin Elementary School and the Aitken Elementary School, the town will save 7,135 kWh of electricity, 2,984 therms of gas and \$4,865 annually.

### **Install High Efficiency Transformers**

It is recommended that two standard efficiency transformers at Seekonk High School are replaced with Rex High Efficiency Transformers. By implementing this measure, the overall energy consumption of the transformers will decrease which will lead to annual energy cost savings. The scope of work includes the following:

- Furnish and install two Rex High Efficiency Transformers
- Removal of existing Transformers

By implementing this measure at Seekonk High School, the town will save 24,895 kWh of electricity and \$4,481 annually.

### **National Grid Streetlight Audit**

A National Grid audit noted that there are 480 streetlights in Seekonk eligible for LED conversion. The annual cost savings would be approximately \$7,116.

## **B. Path to 20% Energy Use Reduction by the end of Fiscal Year 2022**

### 1. Program Management Plan for Implementation, Monitoring, and Oversight

The Town Administrator's Office, in collaboration with the School Department, will be responsible both for oversight of the Energy Reduction Plan and for implementation of energy conservation measures within the Town. The Town Administrator's Office will be responsible for the annual reporting requirements to maintain designation and eligibility for annual competitive grant funding.

### 2. Summary of Energy Audit(s) or Other Sources for Projected Energy Savings

- Building audits were provided by Energy Source in 2018 and provide an energy savings of 1,983 MMBTUs or 14.1%. Both the Prism Energy Services and the Energy Source audits are included in the Appendix.
- A streetlight audit was provided by National Grid and is expected to provide an energy savings of 441 MMBTUs or 0.9%. Documentation is included in the Appendix.
- Vehicle policy and maintenance targeting overall vehicle usage would result in the savings 200 MMBTUs or 1.4%. The supporting documentation for these policy and maintenance measures are available in the Appendix.

### 3. Energy Conservation Measures

Table 3 lists recommended energy conservation measures. References for each measure are included in the table and these references are included as appendices to the Energy Reduction Plan. Projected annual MMBTU savings for each category (buildings, vehicles, and street and traffic lights) are subtotaled to arrive at a municipal grand total.

**Table 4: Energy Conservation Measures for Seekonk Municipal Energy Use**

Measure		Status	Energy Data						Financial Data					Reference		
Category/Building	Energy Conservation Measure	Status (Completed Year or Planned Year)	Projected Annual Energy Savings						Projected Annual Cost Savings	Estimated Total Project Cost (\$)	Green Communities Grant (\$)	Estimated Utility Incentives (\$)	Estimated Cost After Utility Incentives (\$)	Estimated Payback After Incentives (Years)	Funding Source	Source for Energy Savings
			Electricity Savings (kWh)	Natural Gas Savings (Therms)	Oil Savings (Gallons)	Gasoline Savings (Gallons)	Diesel Savings (Gallons)	Propane Savings (Gallons)								
Hurley Middle School	Rooftop Unit Replacements	2020	32,539	0	0	-	-	-	\$5,571	\$253,846	-	\$0	\$253,846	45.6	-	Prism Energy Services Audit, 2018
Hurley Middle School	Mechanical Insulation	2019	0	3,750	0	-	-	-	\$4,500	\$39,467	-	\$3,750	\$35,717	7.9	-	Energy Source Audit, 2018
Hurley Middle School	Building Weatherization	2019	2,511	1,143	0	-	-	-	\$1,824	\$11,665	-	\$0	\$11,665	6.4	-	Energy Source Audit, 2018
Aitken Elementary School	Rooftop Unit Replacements	2020	27,891	0	0	-	-	-	\$4,831	\$245,385	-	\$0	\$245,385	50.8	-	Prism Energy Services Audit, 2018
Aitken Elementary School	ECM Motors for Unit Vents	2020	4,063	0	0	-	-	-	\$704	\$9,138	-	\$1,200	\$7,938	11.3	-	Prism Energy Services Audit, 2018
Aitken Elementary School	Circulation Motor Replacement	2020	3,099	0	0	-	-	-	\$537	\$8,885	-	\$500	\$8,385	15.6	-	Prism Energy Services Audit, 2018
Aitken Elementary School	Condensing Boilers	2020	0	7,100	0	-	-	-	\$8,520	\$209,492	-	\$20,000	\$189,492	22.2	-	Energy Source Audit, 2018
Aitken Elementary School	Energy Management System	2021	30,528	5,424	0	-	-	-	\$12,004	\$129,675	-	\$18,000	\$111,675	9.3	-	Energy Source Audit, 2018
Aitken Elementary School	Kitchen Fan Controls	2021	4,968	1,744	0	-	-	-	\$2,987	\$30,030	-	\$3,744	\$26,286	8.8	-	Energy Source Audit, 2018
Aitken Elementary School	Variable Frequency Drives/Motors	2021	22,113	0	0	-	-	-	\$3,980	\$18,850	-	\$4,050	\$14,800	3.7	-	Energy Source Audit, 2018
Aitken Elementary School	Mechanical Insulation	2019	0	1,400	0	-	-	-	\$1,680	\$13,670	-	\$1,400	\$12,270	7.3	-	Energy Source Audit, 2018
Aitken Elementary School	Building Weatherization	2019	4,460	2,030	0	-	-	-	\$3,239	\$22,704	-	\$0	\$22,704	7.0	-	Energy Source Audit, 2018
Martin Elementary School	Condensing Boilers	2021	0	6,954	0	-	-	-	\$8,344	\$137,683	-	\$15,000	\$122,683	14.7	-	Energy Source Audit, 2018
Martin Elementary School	Energy Management System	2021	18,212	1,354	0	-	-	-	\$4,903	\$122,850	-	\$18,000	\$104,850	21.4	-	Energy Source Audit, 2018
Martin Elementary School	Demand Control Ventilation	2021	6,116	3,886	0	-	-	-	\$5,764	\$52,650	-	\$8,100	\$44,550	7.7	-	Energy Source Audit, 2018
Martin Elementary School	Kitchen Fan Controls	2021	2,167	1,240	0	-	-	-	\$1,878	\$16,531	-	\$2,240	\$14,291	7.6	-	Energy Source Audit, 2018
Martin Elementary School	Mechanical Insulation	2019	0	1,010	0	-	-	-	\$1,212	\$8,667	-	\$1,010	\$7,657	6.3	-	Energy Source Audit, 2018
Martin Elementary School	Building Weatherization	2019	6,227	2,834	0	-	-	-	\$4,522	\$45,307	-	\$0	\$45,307	10.0	-	Energy Source Audit, 2018
Seekonk High School	Condensing Boilers	2021	0	12,668	0	-	-	-	\$15,201	\$306,553	-	\$20,000	\$286,553	18.9	-	Energy Source Audit, 2018
Seekonk High School	Demand Control Ventilation	2022	32,780	13,329	0	-	-	-	\$21,895	\$103,943	-	\$23,700	\$80,243	3.7	-	Energy Source Audit, 2018
Seekonk High School	Variable Frequency Drives/Motors	2022	8,862	0	0	-	-	-	\$1,595	\$10,400	-	\$4,000	\$6,400	4.0	-	Energy Source Audit, 2018

Seekonk High School	Mechanical Insulation	2019	0	2,230	0	-	-	-	\$2,676	\$12,184	-	\$2,230	\$9,954	3.7	-	Energy Source Audit, 2018
Seekonk High School	Building Weatherization	2019	9,120	4,150	0	-	-	-	\$6,622	\$46,071	-	\$0	\$46,071	7.0	-	Energy Source Audit, 2018
Seekonk High School	High Efficiency Transformers	2022	24,895	0	0	-	-	-	\$4,481	\$23,031	-	\$2,490	\$20,542	4.6	-	Energy Source Audit, 2018
Senior Center	Weatherization	2019	1,518	1,568	0	-	-	-	\$2,005	\$49,375	-	\$1,841	\$47,534	23.7	-	Prism Energy Services Audit, 2018
Senior Center	Energy Management System	2022	10,463	0	0	-	-	-	\$1,935	\$19,292	-	\$1,883	\$17,409	9.0	-	Prism Energy Services Audit, 2018
Library	Lighting-New Fixtures	2019	25,186	0	0	-	-	-	\$4,627	\$61,231	-	\$9,395	\$51,836	11.2	-	Prism Energy Services Audit, 2018
Library	Rooftop Unit Replacement	2022	37,532	1,152	0	-	-	-	\$8,266	\$226,154	-	\$7,908	\$218,246	26.4	-	Prism Energy Services Audit, 2018
Library	Energy Management System	2022	21,374	1,442	0	-	-	-	\$5,577	\$58,305	-	\$9,600	\$48,705	8.7	-	Energy Source Audit, 2018
Library	Building Weatherization	2019	4,552	2,072	0	-	-	-	\$3,305	\$29,124	-	\$0	\$29,124	8.8	-	Energy Source Audit, 2018
Library	High Efficiency Rooftop Units	2022	7,031	163	0	-	-	-	\$1,462	\$111,000	-	\$0	\$111,000	75.9	-	Energy Source Audit, 2018
Library	Variable Frequency Drives/Motors	2022	25,578	0	0	-	-	-	\$4,604	\$19,500	-	\$3,300	\$16,200	3.5	-	Energy Source Audit, 2018
Public Safety Complex	Lighting Interior/Exterior	2019	56,311	0	0	-	-	-	\$8,807	\$64,554	-	\$7,474	\$57,080	6.5	-	Prism Energy Services Audit, 2018
Public Safety Complex	Pipe Insulation	2019	0	28	0	-	-	-	\$33	\$2,538	-	\$28	\$2,510	76.6	-	Prism Energy Services Audit, 2018
Public Safety Complex	Energy Management System	2022	22,745	2,226	0	-	-	-	\$6,765	\$80,600	-	\$18,000	\$62,600	9.3	-	Energy Source Audit, 2018
Public Safety Complex	Condensing Boilers	2022	0	1,816	0	-	-	-	\$2,179	\$111,683	-	\$8,000	\$103,863	47.6	-	Energy Source Audit, 2018
Public Safety Complex	Variable Frequency Drives/Motors	2022	2,209	0	0	-	-	-	\$398	\$5,915	-	\$2,000	\$3,915	9.8	-	Energy Source Audit, 2018
Public Safety Complex	Mechanical Insulation	2019	0	320	0	-	-	-	\$384	\$4,689	-	\$0	\$4,689	12.2	-	Energy Source Audit, 2018
Public Safety Complex	Building Weatherization	2019	3,332	1,439	0	-	-	-	\$2,327	\$89,466	-	\$0	\$89,466	38.4	-	Energy Source Audit, 2018
Town Hall	Lighting Exterior Only	2019	7,540	0	0	-	-	-	\$1,313	\$16,235	-	\$946	\$15,289	11.6	-	Prism Energy Services Audit, 2018
Town Hall	Energy Management System	2022	3,140	315	0	-	-	-	\$943	\$35,588	-	\$6,000	\$29,588	31.4	-	Energy Source Audit, 2018
Town Hall	Building Weatherization	2019	7,227	2,499	0	-	-	-	\$4,300	\$195,607	-	\$0	\$195,607	45.5	-	Energy Source Audit, 2018
Banna Fire Station	Lighting Interior/Exterior	2019	7,984	0	0	-	-	-	\$1,433	\$21,912	-	\$4,100	\$17,812	12.4	-	Prism Energy Services Audit, 2018
DPW	Wi-Fi Enabled Programmable Thermostats	2022	0	1,129	0	-	-	-	\$1,750	\$8,462	-	\$113	\$8,349	4.8	-	Prism Energy Services Audit, 2018
DPW	Plug Load Controllers	2022	1,320	0	0	-	-	-	\$268	\$1,692	-	\$264	\$1,428	5.3	-	Prism Energy Services Audit, 2018
DPW	Mechanical Insulation	2020	0	280	0	-	-	-	\$336	\$9,896	-	\$0	\$9,896	29.5	-	Energy Source Audit, 2018
DPW	Building Weatherization	2020	1,381	628	0	-	-	-	\$1,003	\$9,002	-	\$0	\$9,002	9.0	-	Energy Source Audit, 2018

Streetlights	Streetlight LED Replacement	2018	129,448	0	0	-	-	-	\$7,116	-	-	-	-	-	-	National Grid LED Streetlight Audit
<b>Totals</b>			<b>616,422</b>	<b>89,323</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>\$200,606</b>	<b>\$3,110,497</b>	<b>-</b>	<b>\$230,266</b>	<b>\$2,880,412</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total MMBTUs Saved</b>			<b>2,102</b>	<b>8,932</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

## **C. Summary of Long-Term Energy Reduction Goals – Beyond 5 Years**

### 1. Municipal Buildings (including schools)

To better strategize for the long-term maintenance and management of municipal buildings, Seekonk will work with internal schools and town staff as well as outside consultants, when necessary, to assess and document the condition of major municipal buildings on an annual basis. In addition to exposing continuing opportunities for energy use reductions, this effort will provide the Town with a clear, long-term asset management strategy for the effective budgeting and maintenance of buildings.

### 2. Vehicles (including schools)

The Fuel-Efficient Vehicle policy will have become engrained within municipal purchasing practices after five years, and the Town will seek to explore even more efficient policies and tracking systems to enable more efficiency.

### 3. Perpetuating Energy Efficiency

Ongoing dialogue with Town and School staff can tap into the knowledge of the employees who use and maintain the buildings every day. It can empower building staff to develop a detailed repair and management schedule and collect data on problems and inefficiencies that may be missed by traditional third party audits. The use of a web-based application system like See Click Fix creates additional real-time opportunities for efficiencies in operation and maintenance.

The Town of Seekonk will grow its capacity to retrofit and build more efficient facilities, purchase more efficient vehicles, and illuminate the Town through more efficient lighting throughout the 5-year period. These practices will become more engrained in the culture of the Town and will provide opportunities to instill the ethos into additional policies and programs for more dedicated long-term funding streams and strategies.



**V: Appendices**

- Building Energy Audits – Prism Energy Services
- Building Energy Audits – Energy Source
- Streetlight Energy Documentation – National Grid
- SRPEDD Vehicle Calculations
- MMBTU Conversion Chart