

TOWN OF WASHINGTON ENERGY REDUCTION PLAN



Town of Washington
8 Summit Hill Road
Washington MA 01223

THE PLAN WAS ADOPTED BY THE Washington SELECT BOARD ON July 18, 2022

TABLE OF CONTENTS

I PURPOSE AND ACKNOWLEDGEMENTS	2
A. Town and School District Support.....	2
B. List of Contributors	2
II EXECUTIVE SUMMARY	2
A. Narrative Summary of the Town.....	2
B. Summary of Municipal Energy Uses	2
1. Town Hall	3
2. Highway Garage	3
3. Old Town Hall.....	3
4. St. Andrew’s Chapel	3
5. Streetlights.....	3
6. Vehicles.....	4
C. Summary of Energy Use Baseline and Plans for Reductions.....	4
III ENERGY USE BASELINE INVENTORY	5
A. Municipal Energy Consumption for the Baseline Year	5
IV ENERGY REDUCTION PLAN	5
A. Narrative Summary.....	5
B. Overview of Goals for Years 1-3.....	6
C. Overview of Goals for Years 4-5.....	6
D. Areas of Least Efficiency/Greatest Waste	6
2. Energy Conservation Measures.....	7
V SUMMARY OF LONG-TERM ENERGY REDUCTION GOALS (5+ YEARS)	12
A. Municipal Buildings	12
C. Perpetuating Energy Efficiency	12
VI LIST OF RESOURCES	12
VII APPENDICES	13
A. Adoption Letter from Washington Select Board	13
B. Energy Resources Proposals (various).....	13
C. Town of Washington – Fuel Efficient Vehicle and Idling Policy.....	13
D. Complete Table 4 ECMs	13

I PURPOSE AND ACKNOWLEDGEMENTS

A. Town and School District Support

The Chief Executive Officer of the Town of Washington is the Select Board. Board members include Kent Lew, John Fish, and David Ellis. The Select Board have provided a letter of support adopting this energy reduction plan, included in Appendix A. The Town of Washington has no schools within its jurisdictional boundaries.

B. List of Contributors

The effort to pursue Green Communities designation for the Town of Washington was led by:

- Dave Drugmand, Finance Committee Vice Chair
- Kent Lew, Select Board Chair
- Susan Colgan, Green Communities committee member
- Tina Hayward, Green Communities committee member
- Peter Matson, Green Communities committee member

Darek Chomiak and the staff at Energy Resources USA conducted an energy audit of the Town's buildings and then provided the information that allowed town staff to develop a five-year energy reduction plan. Emily Lange of the Berkshire Regional Planning Commission provided technical assistance to the Town, gathered fuel data, created accounts in the MassEnergyInsight (MEI) platform, and aided the Town in drafting this report.

II EXECUTIVE SUMMARY

A. Narrative Summary of the Town

The Town of Washington is a rural hilltown community located in Berkshire County, Massachusetts. Washington is approximately 39 square miles in size. The terrain of the Town is mountainous and almost entirely undeveloped, with 95% of the land in forest cover. A large portion of the land is owned by the Commonwealth of Massachusetts (October Mountain State Forest) and other large portions are owned by neighboring municipalities and managed as drinking water supply protection areas. Only 1% of the land is developed, hosting a population of 487 year-round residents within 248 households (US Census 2020). The population density is second lowest in the county at slightly less than 13 people per square mile.

B. Summary of Municipal Energy Uses

The Town of Washington owns four buildings: Town Hall, Highway Garage, Old Town Hall and St. Andrews Chapel. The Town owns and maintains 14 vehicles, 12 of which maintain the town's roads and the grounds at the Town Park, Town Hall and cemeteries. There is a single streetlight and no traffic lights in Washington.

1. Town Hall



The Town Hall is housed in a former elementary School constructed in 1954. It is a brick building with large windows along the north side of the building, typical of school design of the era. The building is approximately 4,600 square feet in size and has a flat roof covered with a membrane. The building is the Town's meeting place and place of governance. Approximately 10 part-time employees use the building with varying schedules. In addition to weekly Select Board's meetings, annual Town Meeting, and elections, special events are held in the building on evenings and weekends. The building has

eight office spaces, a kitchen and a large public meeting room. In 2012 the older propane-fired boiler was replaced with a new, higher efficiency propane boiler.

2. Highway Garage



The Highway Garage is a one-story metal building on a concrete slab. Constructed in 1993, approximately 4,200 square feet in size, it has a pitched roof with a metal covering. Occupancy is on a daily basis, Monday-Friday from 7 a.m. through 3:30 p.m., with additional hours during snow and ice storms as needed. The building has two offices in addition to the main garage bay. In 2012 the four poorly-insulated garage doors were replaced with foam-insulated R10 garage doors. The Town's transfer

station is located on the Highway Garage property. A small shelter for the attendants and the compactor use minimal energy.

3. Old Town Hall



The Old Town Hall is historic and used for special occasions. Its electricity has been shut off and it is unheated.

4. St. Andrew's Chapel



St. Andrew's Chapel is historic and rented out for public and private events. It has electricity, the use of which extremely low, but is not heated.

5. Streetlights

There is a single streetlight that is not owned by the Town.

6. Vehicles

The Town owns and maintains 14 vehicles, 12 of which maintain the town’s roads and the grounds at the Town Park, Town Hall and cemeteries. The Town maintains approximately 20 miles of paved asphalt or chip-sealed roads and 22 miles of gravel roads. The other vehicles in the Town fleet are the police cruiser, used by the part-time police chief, and the school vehicle, used to transport students to the vocational school of their choice. The Town fleet uses both diesel and gasoline. All vehicles other than the police cruiser, school vehicle, and DPW general use vehicle are exempt.

Fig 1. Municipal Energy Use By Facility Category Baseline Dashboard from MEI (FY 2020)

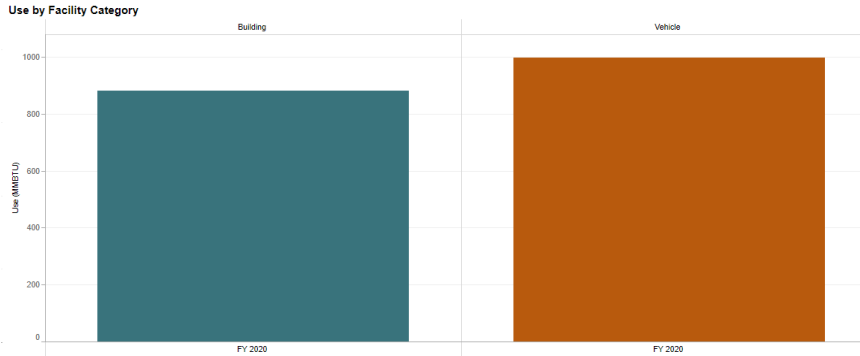


Table 1. Summary of Municipal Energy Users

Facility	Location	Fuel Use	MMBtu FY 2020
Town Hall	8 Summit Hill Road	Electricity, Propane	416
Highway Garage	443 South Washington State Road	Electricity, Propane	457
Transfer Station	443 South Washington State Road	Electricity, Propane	18
Old Town Hall	Washington Mountain Road	Electricity	0
St. Andrews Chapel	801 Washington Mountain Road	Electricity	0
Vehicle Fleet	Various	Diesel, Gasoline	919
Total*			1,810

Source: MEI, 10-28-22

*Figures may not add up exactly due to rounding

C. Summary of Energy Use Baseline and Plans for Reductions

Table 2. Summary of Washington Energy Use Baseline FY2020

Baseline Year FY2020	MMBtu Used in Baseline Year	Percent Total MMBtu Baseline Energy Consumption	Projected Planned MMBtu Savings	Savings as Percent of Total MMBtu Baseline Energy Consumption
Buildings	891	49.23%	496	27.40%
Vehicle Fleet	919	50.77%	175	09.67%

Total*	1,810	100%	671	37.07%
---------------	--------------	-------------	------------	---------------

Source: MEI, 10-28-22

*Figures may not add up exactly due to rounding

III ENERGY USE BASELINE INVENTORY

The Town is utilizing MassEnergyInsight (MEI) as its energy inventory tool. Complete data was collected and entered into MEI for municipal fiscal year (FY) 2020, July 1, 2019, to June 30, 2020. Fiscal Year 2020 will serve as the energy use baseline. The five-year timeline for the Town to meet its 20% energy use reduction goal is from FY2023 to FY2027.

A. Municipal Energy Consumption for the Baseline Year

Table 3. Washington Energy Use Baseline FY2020

Facility	Electricity		Propane		Gasoline		Diesel		Total MMBtu
	kWh	MMBtu	Gallons	MMBtu	Gallons	MMBtu	Gallons	MMBtu	
Town Hall	8,239	28	4,259	388	0	0	0	0	416
Highway Garage	8,745	30	4,691	427	0	0	0	0	457
Transfer Station	2644	9	95	9	0	0	0	0	18
Old Town Hall	0	0	0	0	0	0	0	0	0
St. Andrew’s Chapel	46	0	0	0	0	0	0	0	0
Subtotal for Buildings*	19,674	67	9045	823	0	0	0	0	891
Vehicle Fuel in Aggregate	0	0	0	0	2,145	266	4,697	653	919
Total Energy Use*	19,674	67	9045	823	2,145	266	4,697	653	1,810

IV ENERGY REDUCTION PLAN

A. Narrative Summary

The Town of Washington has greatly reduced its energy usage over the past ten years. At the Town Hall, all of the windows and doors have been replaced and more efficient lighting and heating has been installed. The Town Garage installed better insulated bay doors and instituted policies to minimize leaving them open in the winter and to minimize vehicle idling.

In September of 2021, the Town retained Energy Resources USA to perform energy audits of the Town Hall and Highway Garage to identify potential energy conservation measures. The scope for each building included:

- Review of the current building operation and control sequence with building operators.
- Review of current building thermal envelope and conduct inspections with building operators.
- Site visit to include observation of HVAC systems operations and to review trend data.
- Review of metered consumption for electricity and propane.

The scoping study revealed both general ECMs applicable across all sites as well as site-specific issues and recommendations.

B. Overview of Goals for Years 1-3

1. Town Hall Installation of Additional Building Insulation
2. Town Hall Hot Water Heating Pipe Insulation Installation
3. Town Hall Lighting Upgrade
4. Town Hall Heat Pump Installation
5. Town Garage Building Insulation Upgrades
6. Implementation of social and behavioral mechanisms that respond to environmental, workforce, and cultural needs, including but not limited to community, government and regional energy conservation initiatives
7. Complete Building Operator Certification
8. Complete Eco-driving 101 and Be Idle-free driving courses

C. Overview of Goals for Years 4-5

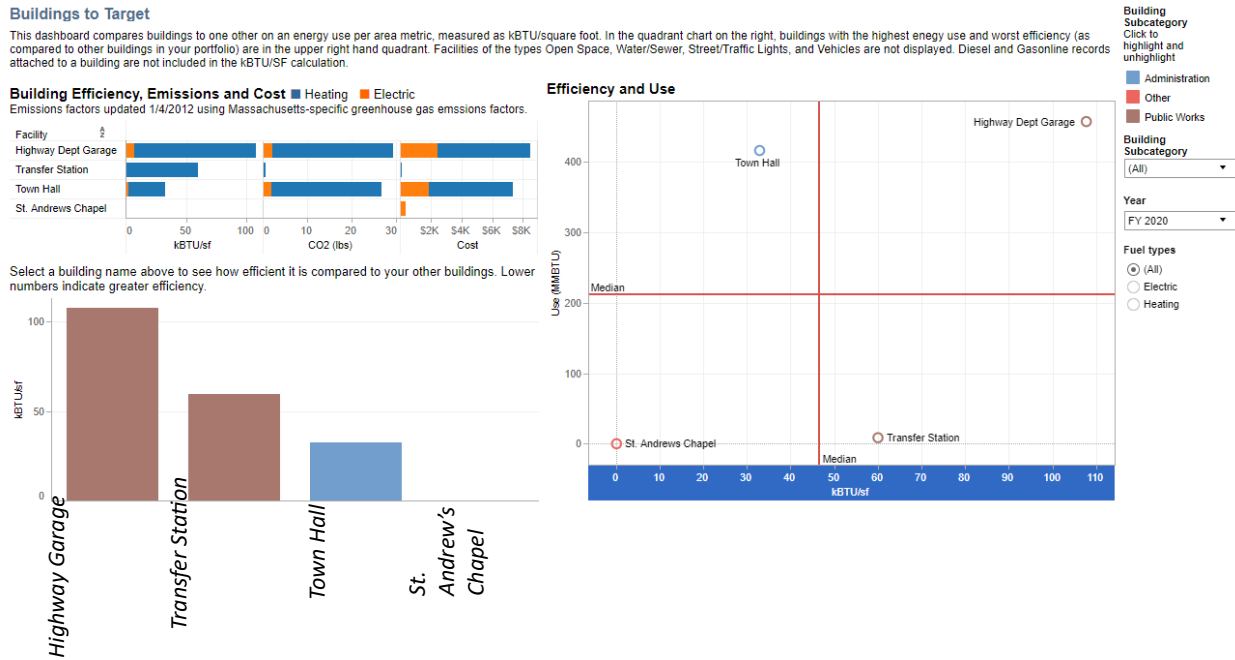
1. Town Garage Comprehensive Energy Efficient Facility
2. Town Garage Heat Pump Installation
3. Vehicle Efficiency Improvements (purchase DPW general use electric vehicle and 1 hybrid Police cruiser)
4. Install electric charging station at Town Hall and Highway Garage

D. Areas of Least Efficiency/Greatest Waste

According to MEI, shown below in *figure 3*, the Highway Garage is the least energy efficient municipally owned building, with an EUI of 107.8 kBtu/sf in the baseline year of FY20. The Highway Garage also consumes the most energy of all Town-owned building: 456.7 MMBTU. The next least energy efficient building is the Transfer Station, at 120 kBtu/sf, though energy use is low.

The Town Hall is more efficient than the Highway Garage and Transfer Station, with an EUI of 32.9, but is the second largest energy consuming building at 415.7 MMBTU. Efforts will be focused on the Town Hall and Town Garage as the largest energy consumers as well as vehicles.

Fig 3. Buildings to Target for Efficiency Measures (MEI dated 06-02-22)



E. Strategy for Achieving 20% Energy Reduction Goal Within 5 Years

1. Program Management Plan for Implementation, Monitoring and Oversight

The Washington Select Board, with the help of the Highway Superintendent, the Building Department Inspector, the Green Communities committee and the other department heads, will be responsible for general oversight of the energy efficiency projects.

2. Energy Conservation Measures

Energy conservation measures are listed in *Table 4* below.

Town Hall

- a. **COMPREHENSIVE ENERGY EFFICIENT FACILITY UPGRADE:** The Town Hall will receive a comprehensive facility upgrade. This will include replacing 4 propane fired boilers with heat pumps, upgrading and supplementing existing insulation with cellulose and fiberglass insulation, installing pipe insulation in the boiler room, faucet aerators in the bathrooms, and upgrading the lighting to LEDs.
 1. **ADDITIONAL BUILDING INSULATION:** The Town will patch stage ceiling in the auditorium area with sheetrock, air seal the entire building envelope, blow-in ~12 inches of cellulose, and install an attic hatch cover. Ceiling tiles will be removed in the attic floor (ceiling in main area of the auditorium) and dense pack will be installed. During installation, Energy Resources will confirm state of foam board installed during a past roof repair. Fiberglass batts will be installed in the hallway and classroom followed by sheetrock.
 2. **HOT WATER HEATING PIPE INSULATION:** 1" thick fiberglass insulation will be installed on all boiler room non-insulated piping (approximately 100')
 3. **AIR-SOURCE HEAT PUMPS:** The Town will replace 3 LOCKINVAR propane-fired boiler with a MITSUBISHI heat pump hyper heat, high efficiency ductless heat pump system consisting of (2) 2.5 ton heat pumps, (1) 2 ton heat pump, and (1) 4 ton heat pump. Wall units will be installed in each of the offices in the administrative side of the building, and 2 units in the Assembly Hall/stage area. The existing propane-fired boiler will remain in place to serve as the emergency back-up heat.
 4. **LIGHTING UPGRADES:** Most of the current lighting at this location is 13W compact fluorescent, 32W T8 fixtures, and 60W incandescent fixtures. Modern LED fixtures produce higher-quality light and much lower energy consumption. The Town will upgrade existing lighting to LED per Energy Resources recommendations in Appendix B. 2021 Lighting and BTU Proposal.

Town Garage

- a. **COMPREHENSIVE ENERGY EFFICIENT FACILITY UPGRADE:** The Town Garage will receive a comprehensive facility upgrade. This will include replacing the propane fired boilers with a heat pump system, upgrading and supplementing existing insulation, and installing pipe insulation in the boiler room.
 1. **ADDITIONAL BUILDING INSULATION:** The Town will add spray foam to: the garage ceiling, exposed walls above the cement foundation and above tool racks, and in between bay doors. A coat of fire shell intumescent paint will be applied to all exposed foam.
 2. **HEATING PIPE INSULATION:** 1" thick fiberglass insulation will be installed on all boiler room non-insulated piping (approximately 20')

3. AIR-SOURCE HEAT PUMPS: The Town will replace its 20-year-old Stant-Fin Propane-Fired Boiler with a MITSUBISHI 1.5 Ton high efficiency ductless heat pump system. A wall unit will be installed in the administrative offices. The existing propane-fired boiler will remain in place to serve as the emergency back-up heat.

Vehicles

- a. HYBRID POLICE CRUISER: The Town of Washington has 1 police vehicle in need of replacement in the upcoming few years. Utilizing the Ford Police Interceptor Hybrid calculator¹, the Town could save 483 gallons of fuel per year (between driving and idling) by converting to a Ford 2021 Utility Hybrid model. These fuel savings amount to \$2,352 (estimated using current gasoline price of \$4.87) and 8,539 pounds of carbon dioxide that will not be emitted. The vehicle is slated to be replaced within the 5-year period.
- b. GENERAL USE VEHICLE: The General Use vehicle will be up for replacement in the next 5 years. This vehicle travels 13,000 miles annually and uses 867 gallons of gasoline on average per year. The Town could save 867 gallons and \$4,222.29 annually (estimated using current gasoline price of \$4.87) by switching to an EV such as a Ford.

Other Measures

- a. *Building Operator Certification*: BOC provides targeted education and training that teaches energy efficient practices to building operators, facilities and maintenance personnel, and others who are responsible for building systems². These programs aim to develop a building operator workforce that deploys the latest practices in energy-efficient building operations. DOER has estimated that BOC can account for a 1% savings in overall yearly building energy use.
- b. *Sustainable Transportation Training Courses*: The Certification for Sustainable Transportation (CST) is to build awareness of, and promote the use of, transportation options that reduce greenhouse gas and other harmful emissions, increase energy efficiency, and utilize alternative fuels and new technologies³. The CST and the eRating certification program seek to help owners, operators, and manufacturers reduce costs, strengthen energy and environmental performance, and demonstrate a commitment to sustainability to the public. The Town will offer CST's Be-Idle Free and/or Eco-driving 101 courses to vehicle operators across departments. DOER has estimated that CST or similar courses can account for a 3% decrease in vehicle fleet energy use.

¹ <https://www.ford.com/police-vehicles/police-interceptor/hybrid-utility/calculator/>

² https://www.theboc.info/pdf/Eval-ACEEE-2012_Estimating-Savings-from-BOC-Training.pdf

³ https://www.erating.org/images/pdfs/CST_1.0_Program_Manual.pdf

Table 4. Energy Conservation Measures

ECMs			Status		Est. Annual Electric Savings (kWh)	Est. Annual Propane Savings (gal)	Est. Annual Gas Savings (gal)	Est. Annual Diesel Savings (gal)
Category/ Building Name	Energy Conservation Measures (ECMs)	ECM Type	Status	Status Date (Qtr/Year)				
Town Hall	Pipe Insulation	Insulation	Planned	Q1/23	-	227.3	-	-
	Faucet Aerators	Other Measures	Planned	Q1/23	-	45.9	-	-
	Building Insulation	Insulation	Planned	Q1/23	-	321.3	-	-
	Air-Source Heat Pumps	HVAC	Planned	Q3/23	- 25,220	3,325.1	-	-
	Lighting Upgrade	Lighting	Planned	Q1/24	2,987	-	-	-
Town Garage	Pipe Insulation	Insulation	Planned	Q2/24	-	42	-	-
	Building Insulation	Insulation	Planned	Q2/24	-	437	-	-
	Air-Source Heat Pumps	HVAC	Planned	Q3/24	-19,000	2,581	-	-
Vehicles	Replacement of 1 Police Cruiser with Hybrid Models	Vehicles	Planned	Q4/26	-	-	483	-
	Replacement of General Use DPW Vehicle with EV	Vehicles	Planned	Q4/27	-6370	-	866.67	-
Other Measures	Building Operator Certification	Behavior & Training	Planned	Q2/23	170.3	8.23	-	-
	Sustainable Transportation Training Program	Behavior & Training	Planned	Q3/23	-	-	56.25	165.21
Total Projected Savings					-47432.7	6,987.83	1405.92	165.21
TOTAL MMBtu SAVINGS					=	-161.84	635.89	174.33

Table 5. Energy Conservation Measures Cost Savings

Please note: projected annual cost savings were estimated per ECM, but installed cost and utility incentives were estimated as a “comprehensive upgrade” for each building and are listed below in bold.

Category/ Building Name	ECM	ECM Type	Projected Annual Cost Savings (\$)	Total Installed Cost (\$)	Green Comm unity Grant (\$)	Utility Incentive (\$)	Net Cost to Town (\$)	Funding Source for Net Costs	Source for Projected Savings
Town Hall	Town Hall Comprehensive Energy Efficient Upgrade	Comprehensive	\$10,029	\$154,377	-	\$74,902	\$79,474	Town	Energy Resources Comprehensive Energy Efficient Facility Upgrade Town Hall
	Pipe Insulation	Insulation	\$852					Town	Energy Resources Washington Town Hall - HW Insulation Exec. Sum.
	Faucet Aerators	Comprehensive	\$172		-			Town	Energy Resources Comprehensive Energy Efficient Facility Upgrade
	Building Insulation	Insulation	\$1,205		-			Town	Energy Resources Washington Town Hall - Bldg. Insulation Exec. Sum.
	Air-Source Heat Pumps	HVAC	\$7,173					Town	Energy Resources Washington Town Hall - HP Exec. Sum.
	Lighting Upgrade	Lighting	\$627					Town	Energy Resources Comprehensive Energy Efficient Facility Upgrade
Town Garage	Town Garage Comprehensive Energy Efficiency Upgrade	Comprehensive	\$6,390	\$64,282	-	\$32,141	\$32,141	Town	Energy Resources Comprehensive Energy Efficient Facility Upgrade Town Garage
	Pipe Insulation	Insulation		\$347					Energy Resources Washington Town Garage - HP and Insul. Exec. Sum.
	Building Insulation	Insulation		\$43,200				Town	Energy Resources Washington Town Garage - HP and Insul. Exec. Sum.
	Air-Source Heat Pumps	HVAC		\$20,735				Town	Energy Resources Washington Town Garage - HP and Insul. Exec. Sum.

Vehicles	Replacement of 1 Police Cruiser with Hybrid Models	Vehicles	\$2,352	\$56,000	-	-	\$56,000	Town	Ford
	Replacement of General Use DPW Vehicle with EV	Vehicles	\$4,222	\$39,974	-	-	\$39,974	Town	Ford
Other Measures	Building Operator Certification	Behavior & Training	\$385	\$1,895	-	-	\$1,895	Town	DOER/BOC
	Sustainable Transportation Training	Behavior & Training	\$1,305	29	-	-	\$348 (est.8 employees)	Town	DOER/CST
TOTAL			\$24,683	\$316,557	-	\$107,043	\$209,832		

V SUMMARY OF LONG-TERM ENERGY REDUCTION GOALS (5+ YEARS)

A. Municipal Buildings

In the coming years the Central Berkshire Regional School District’s Becket Washington Elementary School may be audited and added to the Town’s Green Communities program which will look for savings there once all upgrades are made to existing buildings included in the baseline.

B. Vehicles

The Select Board has adopted the Fuel-Efficient Vehicle Policy which will help guide the replacement of Town vehicles. As vehicles reach their time for replacement, the Town will consider the most energy efficient, appropriately sized vehicles, making every effort to replace vehicles with hybrids or EVs where feasible above and beyond the hybrids recorded in this plan.

C. Perpetuating Energy Efficiency

The Town plans to integrate energy efficiency and additional reduction strategies where practical into future construction, purchasing, planning, and policy making.

VI LIST OF RESOURCES

The Town of Washington used the following people and resources to create this ERP:

- Mark Rabinsky: Green Communities Regional Coordinator, Massachusetts Department of Energy Resources (DOER). Mark.Rabinsky@state.ma.us

- Green Communities Grant Program Information and Guidance: MA DOER, www.mass.gov/energy/greencommunities
- Energy Resources Proposals (various)
- Course and certificate information on Eco-driving 101 and Be Idle-Free courses: <https://www.erating.org/transportation-company-education/courses>
- Building Operator Certification information: <https://www.theboc.info/>
- MMBtu Conversion Chart: DOER:

MMBtu Conversion Chart

(adapted from Energy Reduction Plan Guidance and Outline, dated 7-28-16)

BTU Content of Common Energy Units – (1 million Btu equals 1 MMBtu)

- 1 kilowatt hour of electricity = 0.003412 MMBtu
- 1 gal. heating oil = 0.139 MMBtu
- 1 gal. propane = 0.091 MMBtu
- 1 gal. diesel fuel = 0.139 MMBtu
- 1 gal. gasoline = 0.124 MMBtu *(based on U.S. consumption, 2007)*

VII APPENDICES

- A. Adoption Letter from Washington Select Board
- B. Energy Resources Proposals (various)
- C. Town of Washington – Fuel Efficient Vehicle and Idling Policy
- D. Complete Table 4 ECMs



Town of Washington

8 SUMMIT HILL ROAD P (413) 623-8878
WASHINGTON, MASSACHUSETTS 01223 F (413) 623-2116

Town Offices/Selectman

July 20, 2022

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

To Whom It May Concern

At a public meeting of the Select Board held on July 18, 2022, the Board voted to adopt the attached Energy Reduction Plan for the Town of Washington.

Thank you.

Kent Lew
Select Board Chair



PROPOSAL

Submittal for: Turnkey Installation of Additional Building Insulation



Submitted by:

Energy Resources USA
76 Watertown Road
Thomaston, CT 06787

Contact:
Mike Sak, **LEED AP**

P: 860.866.8490
msak@energyresourcesusa.net

September 30, 2021

Prepared for:

Town of Washington: Town Hall
8 Summitt Hill Rd.
Washington, MA

This proposal includes proprietary data that shall not be duplicated, used, or disclosed -- in whole or in part -- for any purpose other than to evaluate this proposal. The data subject to this restriction are contained in this proposal

Turnkey Installation of additional Interior Insulation:

PROPOSED HIGH EFFICIENCY PLAN:

Furnish and install additional interior insulation

SCOPE OF WORK:

- Patch stage ceiling in auditorium area with sheetrock, air seal, blow-in ~12 inches of cellulose, and install an attic hatch cover. 384 sq. ft., existing R21 (per customer stating R21 foam board installed during roof repair, need to confirm), final R-value = R60
- Install R13 faced fiberglass batts in hallway and classroom. 84 sq. ft., existing R0, final R-value = R13, cover with sheetrock and tape/mud
- Remove ceiling tiles in the attic floor (ceiling in auditorium main area,) drill 3-inch holes and dense pack, 1.216 sq. ft., existing R21 (per customer stating R21 foam board installed during roof repair, need to confirm), final R-value = ~R60

WARRANTY:

- Twenty (20) Year Limited Manufacturer's Warranty
- Ten (10) Year Labor Warranty

Clarifications:

- All work will be performed during normal business hours.

Not included in the scope

- Tax on labor or material
- Premium time.
- Bonding.
- Any cutting, patching, or painting of walls.
- Anything not specifically noted above.

PRICING:

Total gross project cost Building Roof Installation (excluding Taxes): **\$10,940.00**

Anticipated Utility Incentive: T.B.D.

Anticipated Net Project Cost T.B.D.

Note: *Pricing is valid for 30 days.*

CUSTOMER ACKNOWLEDGEMENT

September 30, 2021

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

Turnkey Siding Installation

I have read and understand the outlined scope of work provided above and agree that the focus of the project is energy savings. I understand that any savings stated above or within the Utility documents are estimated based upon a comparison of the baseline system to the high efficiency system, and using customer provided inputs for operating parameters.

Signature to Proceed _____

Printed Name _____

Company Title _____

Date _____

September 30, 2021

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.



PROPOSAL

Submittal for: Turnkey Hot Water Heating Pipe Insulation Installation



Submitted by:

Energy Resources USA
76 Watertown Road
Thomaston, CT 06787

Contact:
Mike Sak, **LEED AP**

P: 860.866.8490
msak@energyresourcesusa.net

September 30, 2021

Prepared for:

Town of Washington: Town Hall
8 Summitt Hill Rd.
Washington, MA

This proposal includes proprietary data that shall not be duplicated, used, or disclosed -- in whole or in part -- for any purpose other than to evaluate this proposal. The data subject to this restriction are contained in this proposal

Turnkey Installation of a heat pipe insulation:

PROPOSED HIGH EFFICIENCY PLAN:

Install fiberglass insulation on all boiler room non-insulated piping

SCOPE OF WORK:

1. Deliver and install the following:
Insulate existing heating piping in boiler room with 1" thick fiberglass
 - *Approximately 100' of existing piping*

WARRANTY:

- One (1) Year Limited Manufacturer's Warranty
- One (1) Year Labor Warranty

Clarifications:

- All work will be performed during normal business hours.

Not included in the scope

- Tax on labor or material
- Premium time.
- Bonding.
- Any cutting, patching, or painting of walls.
- Anything not specifically noted above.

PRICING:

Total gross project cost Building Roof Installation (excluding Taxes): **\$1,160.00**

Anticipated Utility Incentive: T.B.D.

Anticipated Net Project Cost **T.B.D.**

Note: *Pricing is valid for 30 days.*

CUSTOMER ACKNOWLEDGEMENT

I have read and understand the outlined scope of work provided above and agree that the focus of the project is energy savings. I understand that any savings stated above or within the Utility documents are estimated based upon a comparison of the baseline system to the high efficiency system, and using customer provided inputs for operating parameters.

September 30, 2021

Turnkey Heat Piping Insulation Installation

Signature to Proceed _____

Printed Name _____

Company Title _____

Date _____

September 30, 2021

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.



PROPOSAL

Submittal for: Turnkey Heat Pump Installation



Submitted by:

Energy Resources USA
76 Watertown Road
Thomaston, CT 06787

Contact:
Mike Sak, **LEED AP**

P: 860.866.8490

msak@energyresourcesusa.net

October 20, 2021

Prepared for:

Town of Washington: Town Hall
8 Summit Hill Road
Washington, MA 01223

Turnkey Installation of four (4) Heat Pump Split System:

EXISTING SYSTEM:

Currently installed on site is the following:

- (1) LOCHINVAR, Propane- Fired boiler, model # WHN199 (serial #: B11H30034041). A combination of Hot water radiators and Unit ventilators are utilized.

PROPOSED HIGH EFFICIENCY PLAN:

Furnish and install one MITSUBISHI hyper heat, high efficiency ductless heat pump system. The existing propane-fired boiler will remain in place to serve as the emergency back-up heat.

SCOPE OF WORK:

1. Deliver and install the following:

➤ **Administration Side of the Building:**

- (2) MITSUBISHI 2.5-Ton, High Efficiency Heat Pump system with the following features and accessories:

- *Condenser Qty. (2) Model #: MXZ-3C30NAHZ2-U1*
- *Office area #1: Qty. (2) Wall Unit model MSZ-GL15NA-U1*
- *Office area #2: Qty (2) Wall Unit model MSZ-GL15NA-U1*

➤ **Separate office spaces: (Police, Tax collector, Board of Health & Meeting room)**

- (1) MITSUBISHI 2 -Ton, High Efficiency Heat Pump system with the following features and accessories:

- *Condenser Model #: MXZ-3C30NAHZ2-U1*
- *Police: Wall Unit model MSZ-GL09NA-U1*
- *Tax Collector: Wall Unit model MSZ-GL09NA-U1*
- *Board of Health: Wall Unit model MSZ-GL09NA-U1*
- *Meeting Room: Wall Unit model MSZ-GL09NA-U1*

➤ **Assembly Hall/Stage Area – Kitchen:**

- (1) MITSUBISHI 4 -Ton, High Efficiency Heat Pump system with the following features and accessories:

- *Condenser Model #: MXZ-8C48NAHZ2-U1*
- *Qty. (2) Wall Unit model MSZ-GL24NA-U1*

- *R-410A Refrigerant.*
- *208/230-1-60.*
- *Variable speed INVERTER-driven compressor.*
- *Quiet outdoor unit operation as low as 54 dB(A).*
- *H2i® hyper heat performance offers 100% heating capacity at 5°F and 74% heating capacity at -13°F.*
- *Energy Star® certified.*

October 20, 2021

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

2. Complete turnkey installation including:
 - *Installation of new heat pump condensing unit on a wall stand outside the building in a location to be discussed and approved of by the customer.*
 - *Installation of all wall units in each area described above. Customer will be shown location prior to installation for customer approval.*
 - *A lineset will be run from the new condenser to each wall unit.*
 - *Each wall unit will have a wall mounted remote thermostat control by each wall unit.*
 - *Includes the power, control and low voltage wiring. Thermostat will be changed to a programmable heat pump thermostat.*
 - *Permit Fees to town hall*
 - *Project management for coordination of all trades and sub-contractors to allow for sufficient start-up time.*
 - *Complete installation and commissioning performed by licensed HVAC & Electrical technicians*

EQUIPMENT LEAD-TIME

Current manufacturing lead-time from date of released order is 4 - 8 weeks. Allow 5 business days for transport.

WARRANTY:

- Seven (7) Year Limited Manufacturer’s Warranty on Compressor.
- One (1) Year Limited Warranty on Parts.
- One (1) Year Warranty on all other Materials used in the Scope of Work.
- One (1) Year Labor Warranty

Clarifications:

- All work will be performed during normal business hours.
- Price includes prevailing wage.
- The original propane-fired heating system will be left operational as an emergency back-up heat option.

Not included in the scope

- Upgrade of existing 225a electrical service
- Tax on labor or material
- Premium time.
- Bonding.
- Any cutting, patching, or painting of walls.
- Anything not specifically noted above.

PRICING:

Total gross project cost (excluding Taxes): **\$136,100.00**

Anticipated Utility Incentive: T.B.D.

Anticipated Net Project Cost T.B.D.

Note: Pricing is valid for 30 days.

CUSTOMER ACKNOWLEDGEMENT

I have read and understand the outlined scope of work provided above and agree that the focus of the project is energy savings. I understand that any savings stated above or within the Utility documents are estimated based upon a comparison of the baseline system to the high efficiency system, and using customer provided inputs for operating parameters.

Signature to Proceed _____

Printed Name _____

Company Title _____

Date _____

Comprehensive Energy Efficient Facility Upgrade

Developed by  for:

Washington Town Hall

8 Summit Hill Road, Washington Massachusetts 01223

David Drugmand

413-446-1774



Energy Resources Consultant:

Darek Chomiak

413-376-8575

dchomiak@energyresourcesusa.net

Issued on: December 6, 2021

Expires on: January 5, 2022

*Energy Resources is an approved contractor for the
Eversource MA Small Business DI Program*

Project Savings Overview

INPUT FACTORS:

kWh Rate	\$0.21 / kWh
Propane Rate	\$3.75 / Propane
Hours of Operation	Varies by Location
Existing Measure Count	104 measures
Proposed Measure Count	104 measures

ENERGY and FINANCIAL SAVINGS:

Annual kWh Saved	-22,233 kWh
Total Propane Saved	3,920 Propane
Total Annual Savings (\$)	\$10,029.34

FACILITY INVESTMENT:

Turnkey Project Cost	\$154,377.25
Utility Incentive	\$74,902.76
MA Sales Tax*	\$0.00
Net Total Investment	\$79,474.49

FINANCIAL ANALYSIS:

Simple Payback (years)	7.92
Project ROI	12.62%
Number of Months**	24 months
Monthly Payment \$3,311.44 / Monthly Savings	\$835.78

Initials _____ Date _____

**Tax is calculated as 6.25% of retail materials cost only. **Interest-free financing will be provided off bill through Eversource MA. Customer has 30 days to act on this proposal.*

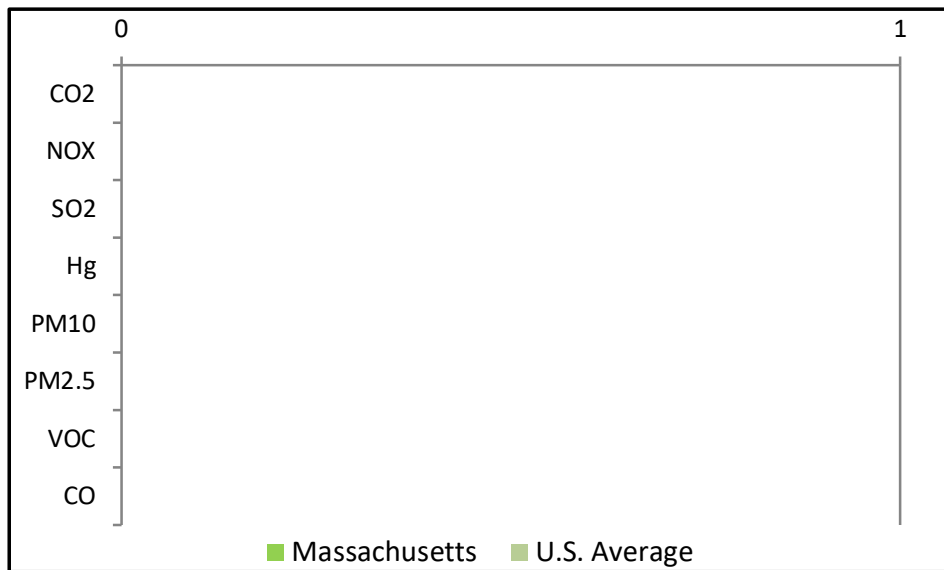
Detailed Energy Analysis

ECM	Location	Existing System	Qty	Fixture Watts	Annual HRS	Replacement System	Qty	Fixture Watts	Annual HRS	Watts Saved	kWh Saved	Gallons of Propane Saved	Annual \$ Savings
1	Boiler Room	3/4" - 20 ' Copper	1	0	5,100	New Pipe Insulation	1	0	5,100	0.0	0.0	45.9	\$ 172.13
2	Boiler Room	2" - 26 ' Copper	1	0	5,100	New Pipe Insulation	1	0	5,100	0.0	0.0	60.1	\$ 225.41
3	Boiler Room	1-1/2" - 53 ' Copper	1	0	5,100	New Pipe Insulation	1	0	5,100	0.0	0.0	121.3	\$ 454.92
4	Bathrooms	Add New	2	0	104	Faucet Aerator	2	0	104	0.0	0.0	45.9	\$ 172.13
5	Facility	Existing Insulation	1	0	8,760	Cellulose and Fiberglass Insulation	1	0	8,760	0.0	0.0	321.3	\$ 1,204.92
6	Facility	Lochinvar Propane Fired Boiler	2	0	8,760	Mitsubishi 2.5 Ton Heat Pump	2	0	8,760	0.0	(12,610.0)	1,662.5	\$ 3,586.28
7	Facility	Lochinvar Propane Fired Boiler	1	0	8,760	Mitsubishi 2 Ton Heat Pump	1	0	8,760	0.0	(6,305.0)	831.3	\$ 1,793.14
8	Facility	Lochinvar Propane Fired Boiler	1	0	8,760	Mitsubishi 4 Ton Heat Pump	1	0	8,760	0.0	(6,305.0)	831.3	\$ 1,793.14
9	Outside Front	15W Compact Fluorescent	6	15	4,004	9.5W A19 LED	6	9.5	4,004	33.0	132.1	0.0	\$ 27.75
10	Front Foyer	13W Compact Fluorescent	4	13	100	9.5W A19 LED	4	9.5	100	14.0	1.4	0.0	\$ 0.29
11	Front Foyer Cont.	13W Compact Fluorescent	1	13	750	9.5W A19 LED	1	9.5	750	3.5	2.6	0.0	\$ 0.55
12	Lobby	13W Compact Fluorescent	8	13	750	9.5W A19 LED	8	9.5	750	28.0	21.0	0.0	\$ 4.41
13	Front Office	13W Compact Fluorescent	4	13	750	9.5W A19 LED	4	9.5	750	14.0	10.5	0.0	\$ 2.21
14	Front Office	Add New	1	38	750	Wall Sensor	1	38	525	0.0	8.6	0.0	\$ 1.80
15	Front Office	8' 2L 75W T12	1	158	750	Philips CorePro 4' 4L Type C w/ Driver 14W Kit (8-4)	1	56	750	102.0	76.5	0.0	\$ 16.07
16	Auditorium	1 x 4 2L T8 32W	8	60	750	Philips CorePro 4' 2L Type C w/ Driver 14W	8	28	750	256.0	192.0	0.0	\$ 40.32
17	Auditorium	Standard Exit Sign	2	30	8,760	LED Exit w/ Batt. Backup	2	2	8,760	56.0	490.6	0.0	\$ 103.02
18	On Stage	13W Compact Fluorescent	4	13	500	9.5W A19 LED	4	9.5	500	14.0	7.0	0.0	\$ 1.47
19	Kitchen	13W Compact Fluorescent	4	13	750	9.5W A19 LED	4	9.5	750	14.0	10.5	0.0	\$ 2.21
20	Storage off of Kitchen	13W Compact Fluorescent	1	13	250	9.5W A19 LED	1	9.5	250	3.5	0.9	0.0	\$ 0.18
21	Restroom	13W Compact Fluorescent	2	13	250	9.5W A19 LED	2	9.5	250	7.0	1.8	0.0	\$ 0.37
22	Restroom	Add New	1	19	250	Wall Sensor	1	19	175	0.0	1.4	0.0	\$ 0.30
23	Main Hallway	1 x 4 2L T8 32W	8	60	750	Philips CorePro 4' 2L Type C w/ Driver 14W	8	28	750	256.0	192.0	0.0	\$ 40.32
24	File Cabinet Area	1 x 4 2L T8 32W	1	60	500	Philips CorePro 4' 2L Type C w/ Driver 14W	1	28	500	32.0	16.0	0.0	\$ 3.36
25	Restroom	13W Compact Fluorescent	2	13	250	9.5W A19 LED	2	9.5	250	7.0	1.8	0.0	\$ 0.37
26	Restroom	13W Compact Fluorescent	1	13	250	9.5W A19 LED	1	9.5	250	3.5	0.9	0.0	\$ 0.18
27	Restroom	Add New	1	9.5	250	Wall Sensor	1	9.5	175	0.0	0.7	0.0	\$ 0.15
28	Selectman Conference Room	8' 2L 59W T8	6	109	500	Philips CorePro 4' 4L Type C w/ Driver 14W Kit (8-4)	6	56	500	318.0	159.0	0.0	\$ 33.39
29	Treasurer's Room	13W Compact Fluorescent	4	13	280	9.5W A19 LED	4	9.5	280	14.0	3.6	0.0	\$ 0.76
30	Police	13W Compact Fluorescent	4	13	500	9.5W A19 LED	4	9.5	500	14.0	7.0	0.0	\$ 1.47
31	Police	Add New	1	38	500	Wall Sensor	1	38	350	0.0	5.7	0.0	\$ 1.20
32	Clerk/Assessor	8' 2L 59W T8	6	109	500	Philips CorePro 4' 4L Type C w/ Driver 14W Kit (8-4)	6	56	500	318.0	159.0	0.0	\$ 33.39
33	Clerk/Assessor	Add New	1	336	500	Wall Sensor	1	336	350	0.0	50.4	0.0	\$ 10.58
34	Tax Collector	60W Incandescent Screw-in	2	60	500	9.5W A19 LED	2	9.5	500	101.0	50.5	0.0	\$ 10.61
35	Tax Collector	Add New	1	19	500	Wall Sensor	1	19	350	0.0	2.9	0.0	\$ 0.60
36	Hallway	Standard Exit Sign	2	30	8,760	LED Exit w/ Batt. Backup	2	2	8,760	56.0	490.6	0.0	\$ 103.02
37	Outside Left Side of Building	150W HPS Wallpack	1	188	4,004	RAB Slim 26	1	31	4,004	157.0	628.6	0.0	\$ 132.01
38	Outside Left Side of Building	100W Incandescent Screw-in	3	100	1,000	18W A21 LED	3	18	1,000	246.0	246.0	0.0	\$ 51.66
39	Outside Back by Handicap Parking	15W Compact Fluorescent	1	15	1,000	9.5W A19 LED	1	9.5	1,000	5.5	5.5	0.0	\$ 1.16
40	Boiler Room	60W Incandescent Screw-in	2	60	100	9.5W A19 LED	2	9.5	100	101.0	10.1	0.0	\$ 2.12
		Total	104				104			2,174.0	-22,233.0	3,919.5	\$ 10,029.34

Impact on Carbon Footprint

Annual Energy Savings:
-22233 kWh

<i>Environmental Gas Reductions (in pounds)</i>	<i>Massachusetts</i>	<i>U.S. Average</i>
Carbon Dioxide (CO ₂):	-44,466	-43,354
Nitrogen Oxide (NO _x):	-112	-91
Sulfur Dioxide (SO ₂):	-329	-188
Mercury (Hg):	-494	-374
Particulate Matter (PM10):	-10	-4
Particulate Matter (PM2.5):	-5	-2
Volatile Organic Compounds (VOC):	-1	-1
Carbon Monoxide (CO):	-5	-8

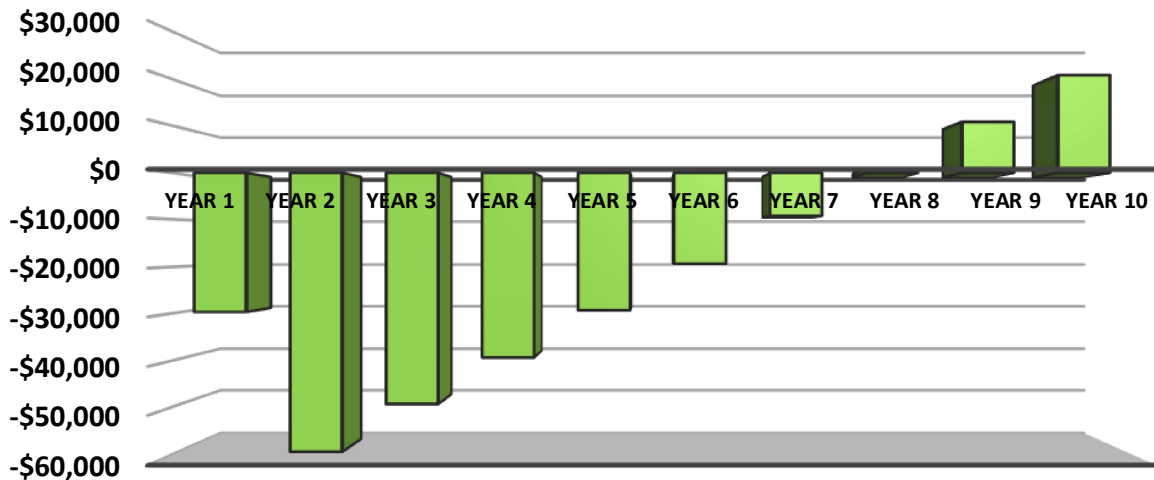


<i>Environmental Impact of either:</i>	
Automobiles removed from the road:	-4
Number of new trees planted:	-67

10 Year Cash Flow Analysis

YEAR	YEARLY SAVINGS	YEARLY COST	CUMULATIVE CASH FLOW
Year 1	\$10,029.34	\$39,737.25	-\$29,707.90
Year 2	\$10,029.34	\$39,737.25	-\$59,415.80
Year 3	\$10,029.34	\$0.00	-\$49,386.46
Year 4	\$10,029.34	\$0.00	-\$39,357.11
Year 5	\$10,029.34	\$0.00	-\$29,327.77
Year 6	\$10,029.34	\$0.00	-\$19,298.42
Year 7	\$10,029.34	\$0.00	-\$9,269.08
Year 8	\$10,029.34	\$0.00	\$760.26
Year 9	\$10,029.34	\$0.00	\$10,789.61
Year 10	\$10,029.34	\$0.00	\$20,818.95
Totals	\$100,293.44	\$79,474.49	\$20,818.95

CUMULATIVE \$\$ Savings



Project Benefits Summary

Reduce Energy Consumption

Reduce Annual Utility Cost

\$10,029.34

10 Year Positive Cash Flow

\$20,818.95

Reduce Annual Maintenance Costs

Instant on / Instant off Lighting

Longer Life Lighting System

Improved Color Rendering

Disposal/Recycling of higher mercury lamps

Printed Name _____

Signature _____

Company Title _____

Date _____

Warranty and Notes

The Energy Resources turnkey solution includes the recycling of your existing technology and the disposal of non-hazardous waste. Materials and workmanship of your newly upgraded measures are fully warranted as follows:

- Workmanship – Energy Resources 1 Year Warranty
- Products - Manufacturer's Material Warranty

Your utility incentivized energy efficiency upgrade will result in **a large reduction in operating costs** for your facility. In addition, the new equipment will improve the quality of the overall working environment.

Customer signature of the proposal is authorization for Energy Resources to proceed with construction. Customer agrees to promptly execute any documents required by Eversource to effect payment to Energy Resources.

Project savings analysis is based on current burnt out lights being relamped prior to project installation.

This proposal is only guaranteed for 30 days from date of initial presentation.



TOWN OF WASHINGTON FUEL EFFICIENT VEHICLE POLICY	
Effective Date: 11/26/18	
Revisions: minor corrections to inventory 7/22	Updated Version
Board of Selectman Approval Date: 11/26/18, reaffirmed 7/18/22	

DEFINITIONS

Combined city and highway MPG (EPA Combined fuel economy): Combined Fuel Economy means the fuel economy from driving a combination of 43 percent city and 57 Percent highway miles and is calculated as follows:

$$= 1/((0.43/city\ MPG)+(0.57/highway\ MPG))$$

Drive System: The manner in which mechanical power is directly transmitted from the drive shaft to the wheels. The following codes are used in the drive field:

- AWD = All Wheel Drive: 4 -wheel drive automatically controlled by the vehicle power train system
- 4WD = 4-Wheel Drive: driver selectable 4-wheel drive with 2-wheel drive option
- 2WD = 2-Wheel Drive

Heavy-duty vehicle: A vehicle with a manufacturer’s gross vehicle weight rating (GVWR) of more than 8,500 pounds

POLICY STATEMENT

In an effort to reduce the Town of Washington’s fuel consumption and energy costs the Washington Select Board hereby adopts a policy to purchase only fuel-efficient vehicles to meet this goal.

PURPOSE

To establish a requirement that the Town of Washington purchase only fuel efficient vehicles for municipal/school use whenever such vehicles are commercially available and practicable.

APPLICABILITY

This policy applies to all divisions and departments of the Town of Washington.

GUIDELINES

All departments/divisions shall purchase only fuel-efficient vehicles for municipal use whenever such vehicles are commercially available and practicable.

The Town of Washington will maintain an annual vehicle inventory for ALL vehicles and a plan for replacing any non-exempt vehicles with vehicles that meet, at a minimum, the fuel efficiency ratings contained in the most recent guidance for Criterion 4 published by the MA Department of Energy Resources’ Green Communities Division.

It is the responsibility of the Town of Washington to check the Green Communities Division’s Guidance for Criterion 4 for updates prior to ordering replacement vehicles.

EXEMPTIONS

- Heavy-duty vehicles: examples include fire-trucks, ambulances, and some public works trucks that meet the definition of heavy-duty vehicle
- Police cruisers, passenger vans and cargo vans are exempt from this criterion since fuel efficient models are not currently available. However, we commit to purchasing fuel efficient police cruisers, passenger vans and cargo vans when they become commercially available. Police and fire department administrative vehicles are NOT exempt and must meet fuel efficient requirements.

FUEL EFFICIENT VEHICLE REPLACEMENT PLAN

All non-exempt vehicles shall be replaced with fuel-efficient vehicles that adhere to the most recent Green Communities Criterion 4 Guidance. Vehicles shall be replaced when they are no longer operable and will not be recycled from one municipal department to another unless the recycled replacement vehicle meets the fuel efficiency ratings outlined in the Policy. In addition, when replacing exempt vehicles, the function of the vehicle will be reviewed for potential replacement with a more fuel-efficient vehicle, including a fuel-efficient non-exempt vehicle.

The Town of Washington will review on an annual basis the Vehicle Inventory, along with the Green Communities Criterion 4 Guidance, to plan for new acquisitions as part of planning for the new fiscal year budget.

QUESTIONS / ENFORCEMENT

All other inquiries should be directed to the department/division responsible for fleet management and/or fleet procurement. This policy is enforced by the Chief Administrative Officer and/or his/her designee(s).

INVENTORY

The following information shall be included in a vehicle inventory list and said list shall be updated on an annual basis and provided to the Green Communities Division:

Department	Make	Model	Model Year	Month/Year Purchased	Drive System: 2WD, 4WD, AWD	GVWR > 8500 pounds? (Y, N, NA)	Exempt or Non- Exempt? (E or NE)	COMBINED MPG Rating	Vehicle Function
Police	Ford	Explorer	2010	7/1/10	4WD	No	NE	16	Patrol
School	Ford	Expedition	2014	12/2/13	4WD	No	NE	17	Student transfer
DPW	Toyota	Tundra	2018	2/3/2018	4WD	No	NE	15	General use
DPW	Dodge	5500	2018	3/28/2018	4WD	Yes	E	≤ 9	Plow, haul material
DPW	International	7400	2015	2/10/2015	4WD	Yes	E	3-6	Plow, haul material
DPW	International	4800	1997	2/21/1997	4WD	Yes	E	Around 6	Plow, haul material
DPW	International	7400	2002	2003	2WD	Yes	E	3-6	Plow, haul material
DPW	Kaiser	5-ton	1969	Don't know	6WD	Yes	E	Around 3	Haul rocks
DPW	Ford	3600 tractor	1975	1975	2WD	No	E	NA	Roadside mow
DPW	Volvo	L70 Loader	1999	1999	AWD	Yes	E	NA	Load and road work
DPW	Caterpillar	416CIT Backhoe	2000	8/30/2000	4WD	Yes	E	NA	Dig Trenches, Load
DPW	John Deere	672D Grader	2006	12/7/2005	AWD	Yes	E	NA	Grade roads
DPW	Saiki	DD25B Roller	2012	4/24/2015	NA	Yes	E	NA	Roll roads
DPW	John Deere	5085E Tractor	2015	10/16/2015	4WD	Yes	E	NA	Roadside mow

NOTE: Departments/Divisions may use EPA combined MPG estimates or actual combined MPG.



Town of Washington

8 SUMMIT HILL ROAD P (413) 623-8878
WASHINGTON, MASSACHUSETTS 01223 F (413) 623-2116

Town Offices/Selectman

July 20, 2022

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

To Whom It May Concern

At a public meeting of the Select Board held on July 18, 2022, the Board voted to reaffirm the adoption of the attached Town of Washington Fuel Efficient Vehicle Policy originally approved on November 26, 2018.

Thank you.

Kent Lew
Select Board Chair

Criterion 3 Step 4: Complete Table 4 - ECMs

[Click here to view a sample version of this table](#)

Table 4

Energy Conservation Measures Data

ECMs				Status		Energy Data						Financial Data				Reference Data		
Category (Select one from drop-down)	Building/Site Name	Energy Conservation Measure Name	ECM Type (select one from drop-down)	Status (select one from drop-down)	Status Date (Completed with month/year or planned month/year)	Projected Annual Electricity Savings (kWh)	Projected Annual Natural Gas Savings (therms)	Projected Annual Oil Savings (gallons)	Projected Annual Propane Savings (gallons)	Projected Annual Gasoline Savings (gallons)	Projected Annual Diesel Savings (gallons)	Projected Annual Cost Savings (\$)	Total Installed Cost (\$)	Green Community Grant (\$)	Utility Incentives (\$)	Net Cost (\$)	Funding Source(s) for Net Costs	Source for Projected Savings
	Town Hall Comprehensive Energy Efficient Upgrade											\$10,029	\$154,377		\$74,903	\$79,474	Town	Energy Resources Audits
Buildings	Town Hall	Pipe Insulation	Weatherization					227									Town	Energy Resources Audits
Buildings	Town Hall	Faucet Aerators	Comprehensive					46									Town	Energy Resources Audits
Buildings	Town Hall	Building Insulation	Weatherization					321									Town	Energy Resources Audits
Buildings	Town Hall	Air-Source Heat Pumps	HVAC			-25,220		3,325									Town	Energy Resources Audits
Buildings	Town Hall	Lighting Upgrade	Interior Lighting			2,987											Town	Energy Resources Audits
	Town Garage Comprehensive Energy Efficient Upgrade											\$6,390	\$64,282		\$32,141	\$32,141	Town	Energy Resources Audits
Buildings	Town Garage	Pipe Insulation	Weatherization						42								Town	Energy Resources Audits
Buildings	Town Garage	Building Insulation	Weatherization						437								Town	Energy Resources Audits
Buildings	Town Garage	Air-Source Heat Pumps	HVAC			-19,000			2,581								Town	Energy Resources Audits
Vehicles	Vehicles	Replacement of 1 Police Cruiser with Hybrid Models	Vehicles							483		\$2,352	\$56,000			\$56,000	Town	Ford
Vehicles	Vehicles	Replacement of School Transfer Van with EV	Vehicles							1,324		\$6,443	\$34,750			\$34,750	Town	Canoa
Vehicles	Vehicles	Replacement of General Use DPW Vehicle with EV	Vehicles							867		\$4,222	\$39,974			\$39,974	Town	Ford
Other Measures	Other Measures	Building Operator Certification	Behav & Training					8				\$385	\$1,895			\$1,895	Town	DOER/BOT
Other Measures	Other Measures	Sustainable Transportation Training Program	Behav & Training							56	165	\$1,305	\$29			\$29	Town	Doer-STP
To insert additional rows, select this row, right-click, and select "Insert"	To insert additional rows, select this row, right-click, and select "Insert."																	
TOTAL Projected Savings						-41,233	0	3,928	3,060	2,729	165	31,126	351,307	0	107,044	244,263		
TOTAL MMBtu SAVINGS						1,045	-140.686996	0	545.96837	278.46	338.4394	22.96419						