

Green Communities Annual Report Summary FY2024

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Green Community Information

Municipality: Bedford

Baseline Fiscal Year: 2009

Criterion 1: As-of-Right Siting

Criterion 1 is met by a municipality passing zoning in designated locations for the as-of-right siting of renewable or alternative energy generating facilities, research and development facilities, or manufacturing facilities.

Type of as-of-right siting approval received: Research & Development, Manufacturing

Have any significant changes been made to the zoning district(s) for which the community received Green Communities designation? No

Criterion 2: Expedited Permitting

Criterion 2 is met by a municipality adopting an expedited permitting process of one year at most, under which facilities interested in locating their facility in a designated renewable zone may be sited within the municipality.

Type of expedited permitting approval received: Local

Clean Energy Project Permitting

This table shows any changes made in FY2024 to clean energy projects on record that have been accepted for approval under the zoning for which the community received Green Community Designation.

Name	Type	Description	Status	Decision Date
{none}				

Criterion 3: Energy Use Baseline & Energy Use Reduction Plan

To demonstrate compliance with Criterion 3, municipalities must:

- Establish an energy use baseline inventory for municipal buildings and facilities (which can include schools, water, wastewater treatment plants and pumping stations, and open space), street and traffic lighting, and vehicles; and
- Adopt an Energy Reduction Plan (ERP) demonstrating a reduction of 20 percent of energy use after five years of implementation.

Community Baseline Year: **FY2009**

Energy Reduction Progress

Category	Baseline (FY2009)	FY2022	FY2023	FY2024
Building Use (MMBTU)	47,846	55,001	47,449	47,211
%Diff from Baseline		14.95%	-0.83%	-1.33%
Open Space Use (MMBTU)		0	0	0
%Diff from Baseline				
Street/Traffic Lights Use (MMBTU)	2,145	1,210	1,181	1,271
%Diff from Baseline		-43.60%	-44.92%	-40.74%
Vehicle Use (MMBTU)	10,592	7,463	6,508	7,708
%Diff from Baseline		-29.54%	-38.55%	-27.23%
Water/Sewer Use (MMBTU)	4,642	5,051	4,481	5,179
%Diff from Baseline		8.80%	-3.48%	11.56%
Adjustments				
Building Stock Changes	0	-3,643	-3,316	-3,697
Regional School Districts				
Totals	65,226	65,083	56,304	57,673
% Diff from Baseline		-0.2%	-13.7%	-11.6%

Energy Conservation Measures (ECMs)

Changes made to the community's ECM record for FY2024

Location	ECM Name	Status	Start Date	End Date
Bedford	EMS system add & upgrade	Planned	7/1/2031	
Bedford	Increase MPG and Down Sizing	Complete	6/30/2022	7/1/2023
Bedford	Anti Idling Policy 2%	Active	6/1/2018	
Bedford	Reduction in Miles Traveled 2%	Planned	6/1/2018	
Bedford	Reduction in Miles Traveled 2%	Active	6/1/2018	
Bedford Public Schools Bedford High School	Univent Rplcmnt NetZero	Planned	7/1/2028	
Bedford High School	Roof Replacement Net Zero	Planned	7/26/2027	

Location	ECM Name	Status	Start Date	End Date
Bedford High School	Boiler replacement - Net zero	Planned	7/25/2026	
Bedford High School	Hot water heater replacement	Planned	7/25/2025	
Bedford High School	Lighting Control. Upgrade	Active	1/23/2023	
Bedford High School	Lighting Control. Upgrade	Active	1/23/2023	9/1/2024
Bedford High School	LED Retrofit	Active	12/19/2020	12/1/2024
Bedford High School	2 EV Charging Station	Complete		
John Glenn Middle School	Univent Rplcmnt NetZero	Planned	7/28/2029	
John Glenn Middle School	Roof Replacement Net Zero	Planned	7/29/2028	
John Glenn Middle School	Boiler (3) replacement - Net Zero	Planned	7/27/2026	
John Glenn Middle School	EV Charging Station	Complete		
Lt. Eleazer Davis Elementary School	Energy Management System Replacement	Planned	12/1/2031	
Lt. Eleazer Davis Elementary School	Roof Replacement	Planned	7/25/2025	
Lt. Eleazer Davis Elementary School	EV Charging Station	Complete		
Lt. Job Lane Elementary School	Roof Replacement Net Zero	Planned	7/30/2028	
Lt. Job Lane Elementary School	LED Retrofit	Planned	12/19/2020	
Lt. Job Lane Elementary School	Retro Commissioning	Complete		
Lt. Job Lane Elementary School	EV Charging Station	Complete		
Town of Bedford	Install Solar Arrays on buildings and parking lots	Planned	1/1/2031	
Town of Bedford	Install Town/School wide EMS system	Planned	6/30/2028	
Bedford Town Hall	Aluminum Window Replacement	Planned	7/26/2025	
Bedford Town Hall	2 EV Charging Stations	Complete		
DPW Office/ Garage	Recommissioning/Demand Controlled Ventilation	Planned	6/1/2031	
DPW Office/ Garage	RTU replacement	Planned	7/27/2026	
DPW Office/ Garage	HVAC control upg	Planned	7/27/2025	
DPW Office/ Garage	Lighting Control. Upgrade	Active	1/23/2023	
DPW Office/ Garage	Infrared Heating	Complete		7/20/2023
Fire Department	New Windows	Planned	7/23/2031	
Fire Department	New Heating & Cooling System	Complete	7/23/2023	11/24/2023
Fire Department	New Boiler	Complete	7/22/2023	11/22/2023
Old Town Hall	Roof Replacement	Planned	7/26/2029	
Public Library	Atrium window replacement	Planned	7/27/2026	
Public Library	Exterior door reconfig	Planned	7/23/2024	
Public Library	Install Energy Mngt System (10%)	Planned	6/30/2024	
Public Library	Recommissioning/Demand Controlled Ventilation	Active	6/30/2024	
Town Center	Addition & Reno Net Zero	Planned	7/26/2027	
Town Center	Interior LED upgrade	Planned	12/1/2025	
Town Center	Appliance Replacements	Active	7/22/2024	

Top 5 Buildings per Energy Use

In FY2024, municipal operations used 57,673 MMBtu of energy. The five buildings below accounted for 63% of the community's overall energy use.

Building Name	Energy Consumption MMBtu (% of overall energy use)
1. Bedford High School	15,218 (26%)
2. John Glenn Middle School	6,785 (12%)
3. Lt. Eleazer Davis Elementary School	5,330 (9%)
4. Lt. Job Lane Elementary School	5,256 (9%)
5. Town Center	3,886 (7%)

Top 5 Buildings per Emissions

In FY2024, there were 3,585 MTCO_{2e} emitted from municipal operations. The five buildings below accounted for 60% of the community's overall emissions.

Building Name	Emissions MTCO _{2e} (% of overall emissions)
1. Bedford High School	905 (25%)
2. John Glenn Middle School	391 (11%)
3. Lt. Eleazer Davis Elementary School	314 (9%)
4. Lt. Job Lane Elementary School	307 (9%)
5. Town Center	225 (6%)

Top 5 Buildings per Energy Use Intensity (EUI)

Energy Use Intensity (EUI) is calculated by dividing the total energy consumed by the building in a year by the building's square footage. EUI is a measure of a building's energy efficiency – like miles per gallon for cars – and can be a good indicator of buildings needing efficiency upgrades.

Building Name	Size (Square Feet)	Energy Consumption MMBtu	EUI (kBtu per ft ²)
1. Depot Freight	1,122	165	136
2. Public Library	34,168	2,789	82
3. Fire Department	15,000	1,208	81
4. Police Station	19,200	1,540	80
5. Bedford Town Hall	24,500	1,698	69

Energy Narrative:

Our Buildings have had a 2% reduction from the base year. However our buildings are in use at least 20% more than they were in 2009. Our water/sewer accounts saw an 11% increase due to a record season for rainfall in FY24. We recently completed a renovation at our police station that was Net zero and resulted in Gas going from 935 MMBTU to 48.1 MMBTU and Electric going from 951 MMBTU to 1491 MMBTU. We plan to replace the boilers in our schools starting next year through 2032. Replacement will be a hybrid of Electric and gas fired condensing boilers. Funding is being provided to study and evaluate a heating system that will bring us closer to the Town's ENZ goals. Our Vehicles have seen a 28% reduction from the base year, but an increase of 11% over last year. There are many factors that contribute to fuel consumption, including winter weather, take home vehicle mileage, number duration and distance to fire calls, increase in the fleet, and use of construction equipment

Our top 4 Energy Use Intensity (EUI) buildings are Depot Freight (136 EUI), Public Library (82EUI), Fire Station (81 EUI), Police Station (80 EUI). The top three currently do not have an energy management system. The Public Library is

currently having an HVAC renovation that will include a energy management system and be more complaint towards the Towns ENZ goals.

As part of the recently completed renovation project at the Police station a energy management system was installed we saw a 8 EUI reduction in this building in 2024.

The Depot freight building is a small building with little cost for us to realize any significant savings projects.

Criterion 4: Fuel Efficient Vehicles

Fleet Changes for FY2024

Criterion 4 requires all departments within a Green Community to purchase fuel-efficient vehicles for municipal use, whenever such vehicles are commercially available and practicable.

Status	Model Year	Make	Model	Trim
Added +	2022	Ford	E-Transit	350
Added +	2023	Chevrolet	Tahoe	
Added +	2023	Ford	Explorer Hybrid	Police Interceptor Utility
Added +	2023	Ford	F-150	Police Responder
Added +	2023	Ford	F-550 Super Duty	
Added +	2023	Ford	F-550 Super Duty	
Added +	2024	A2TS	Water Trailer	4x7ats
Added +	2024	International	HV607	
Removed -		Unable to Decode		
Removed -	2005	International	WorkStar 7400	
Removed -	2007	Sterling	LT7500 Series	
Removed -	2009	Ford	F-450 Super Duty	
Removed -	2012	Ford	Escape	XLT
Removed -	2013	Chevrolet	Silverado 3500HD	Work Truck
Removed -	2013	Ford	F-150	
Removed -	2013	Ford	F-250 Super Duty	
Removed -	2015	Chevrolet	Silverado 3500HD	Work Truck
Removed -	2015	Chevrolet	Silverado 3500HD	Work Truck
Removed -	2015	Chevrolet	Silverado 3500HD	Work Truck
Removed -	2015	Ford	F-550 Super Duty	

Status	Model Year	Make	Model	Trim
Removed -	2018	Ford	Explorer	Police Interceptor Utility

Has the municipality transferred any vehicles from one department to another? **Yes**

Were the vehicle(s) being transferred more fuel-efficient than the vehicle(s) replaced? **Yes**

Criterion 5: Stretch Code Adoption

Criterion 5 requires that municipalities minimize the life-cycle cost of all newly constructed homes and buildings. DOER recommends communities do this by adopting the Stretch Code (225 CMR 22 and 23).

Is Stretch Code still in effect? **Yes**

Has the community adopted the Specialized Opt-in Stretch Code? **Yes**

How many occupancy permits were issued for new commercial construction over 100,000 sq.ft.? **0.00**

Stretch Code Narrative:

some homeowners and builders are frustrated with the stretch code and the cost associated with it,

Other Notes

Additional Measures Narrative:

TBD

Renewable Energy Narrative:

None

The report must be signed by the community's Chief Executive Officer. The Chief Executive Officer is defined as the manager in any city having a manager and in any town having a city form of government, the mayor in any other city, and the board of selectmen in any other town unless some other officer or body is designated to perform the functions of a chief executive officer under the provisions of a local charter or laws having the force of a charter. Any signatures of designees will be considered an attestation that the signatory has been designated the designee by the municipality.

I confirm that I have reviewed this report and verify all information is true.

Matthew J. Hanson

Print Name

Town Manager - Bedford, MA

Title

Matthew J. Hanson

Signature

November 12, 2024

Date