



Wayland Massachusetts Our Energy & Climate Story

SMALL TOWNS CAN DO BIG THINGS TO SAVE ENERGY & COMBAT CLIMATE RISKS

ELLEN TOHN, ENERGY AND CLIMATE COMMITTEE CO-CHAIR

ANNE HARRIS, ENERGY AND CLIMATE COMMITTEE CO-CHAIR

FEBRUARY 6, 2018

An engaged community

Wayland is a stable and progressive community, characterized by a legacy of civic engagement and a commitment to citizen self-governance, advised and supported by professional staff.

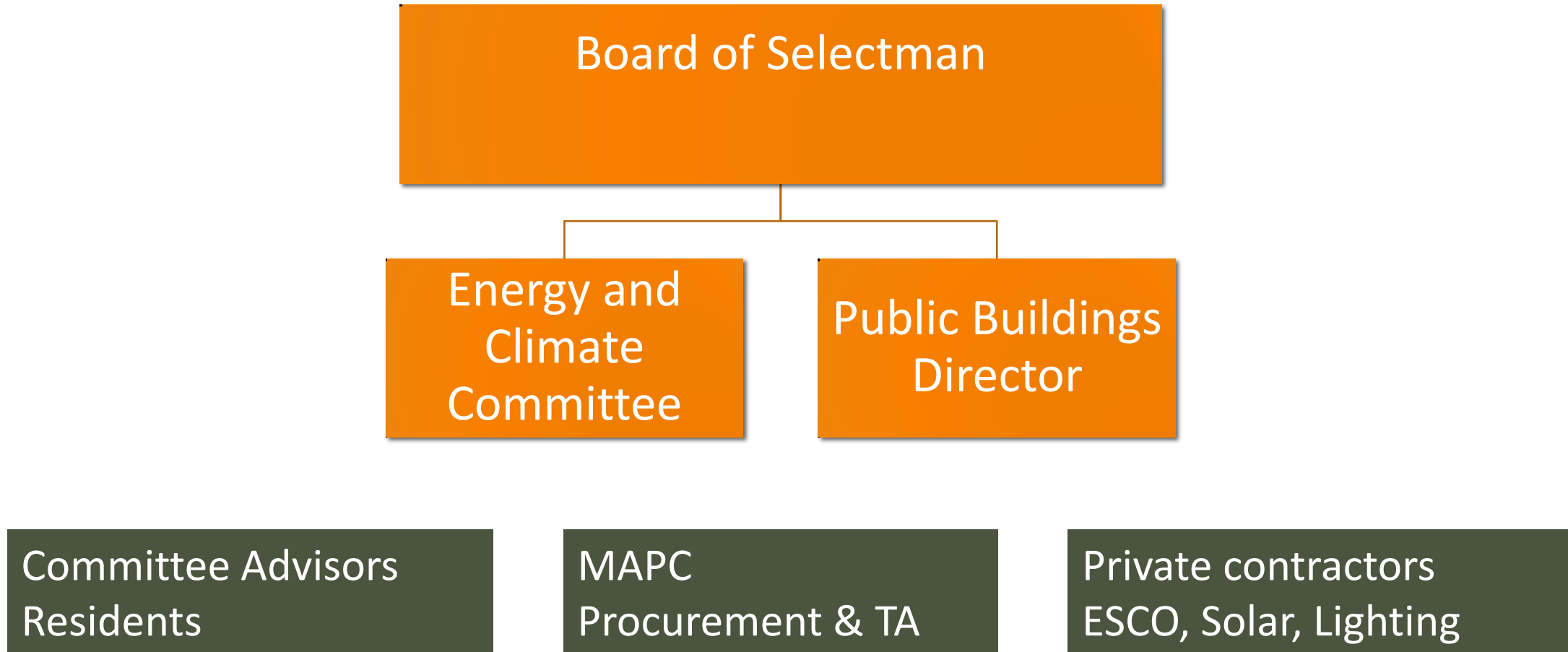


The Energy and Climate Committee

A very skilled and knowledgeable group, with strong advisory support from other town residents. Originally the Energy Initiatives Advisory Committee; name change in 2017 to reflect climate mission.

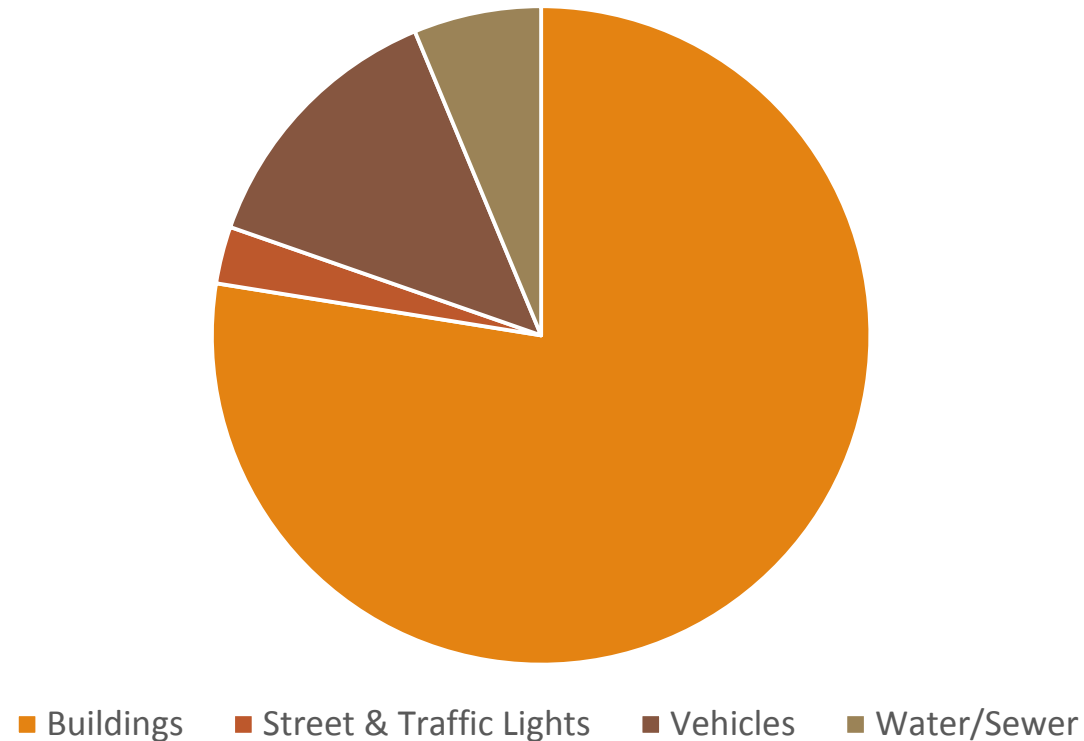
- Anne Harris, Co-Chair
- Ellen Tohn, Co-Chair
- Bill Huss
- Harvey Michaels
- Tom Sciacca
- John Harper, Associate Member with solar financing expertise
- Mike Staiti, Associate Member with solar development and finance expertise
- Kaat Vander Straeten, Associate Member with community engagement and Solarize expertise
- Ben Keefe, Public Buildings Director

The extended team

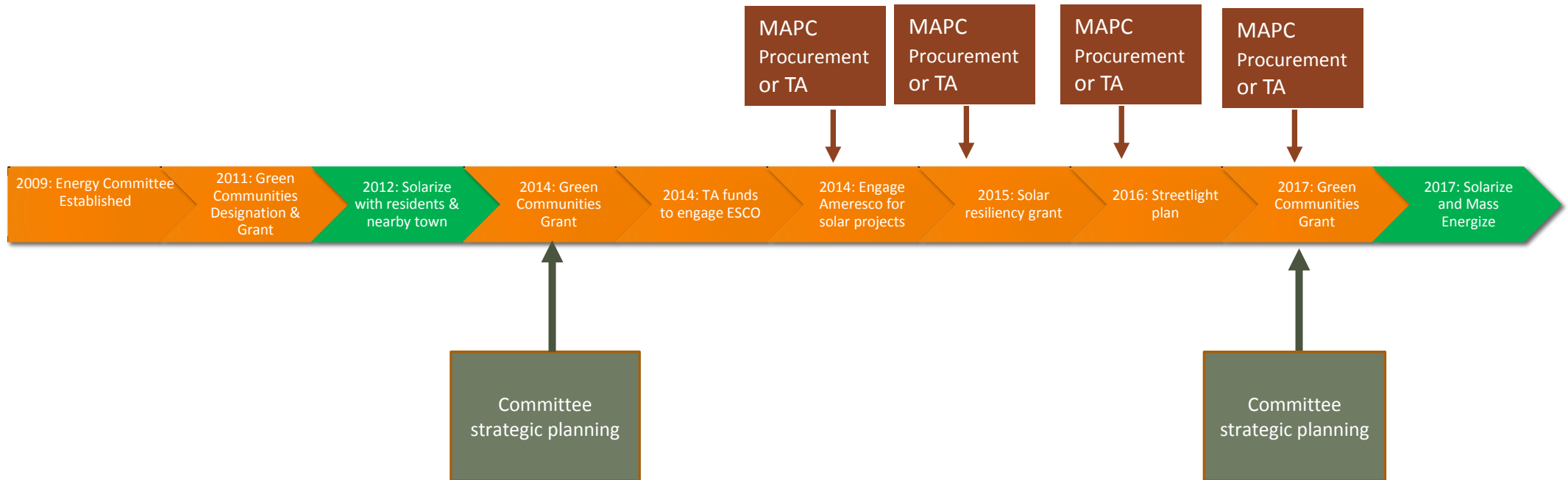


Town buildings our biggest energy users

2010 MMBTU Municipal Use

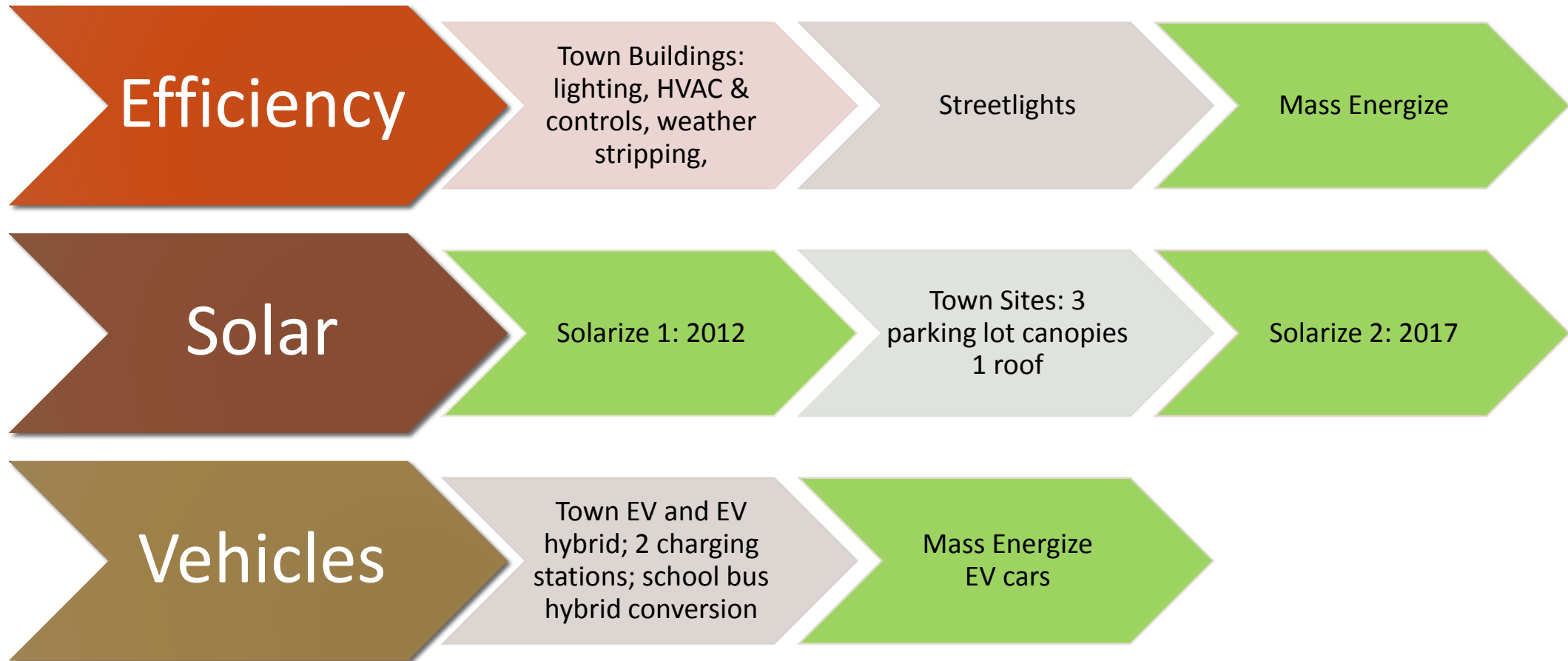


Wayland's energy journey 2009 -2017



 Engages residents

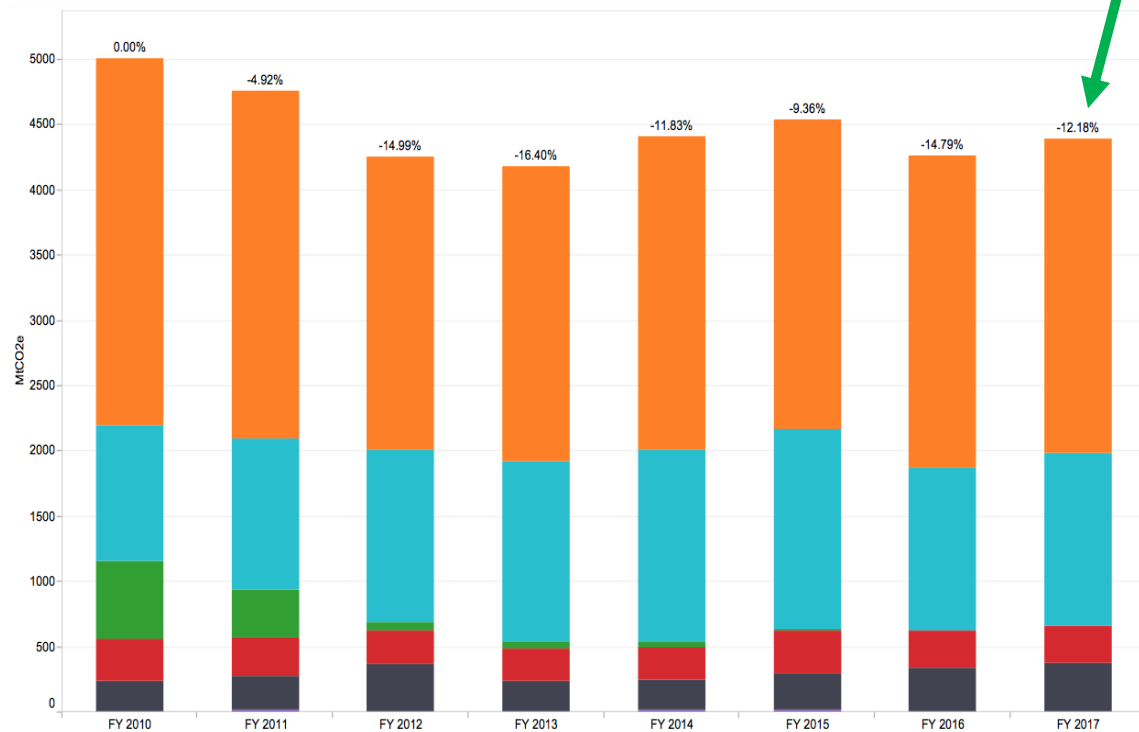
Wayland's energy journey to date



Town of Wayland – Energy Savings Performance Contract

| | | | | | | | | | | | | |
|--|------------------------------|-------------------|--|--------------------|--|-----------------|----------------|---------------------|-----------------------|----------------------|---------------------------------|----------------------------|
| <p>Construction Cost: \$ 2.7M Utility Rebates: \$ 151k Annual Savings: \$ 141k</p> <p>Town of Wayland</p> <p>Energy Conservation Measures (ECMs)</p> | | | | | | | | | | | | |
| | Lighting System Improvements | Lighting Controls | Integrated and New Energy Management System Option A | Water Improvements | Controls for Kitchen Fridge/Freezer Fans | VFD's for Pumps | Weatherization | Boiler Improvements | Oil to Gas Conversion | Replace Transformers | Boiler Replacement - One Boiler | Demand Control Ventilation |
| | 1 | 2 | 4 | 10 | 13 | 14 | 16 | 17 | 18 | 24 | 28A | 33 |
| | Public Safety Building | X | X | | X | | X | | | | | |
| | Library | X | X | | X | | X | | X | | | |
| | Fire Station #2 | X | X | | X | | X | | | | | |
| | Middle School | X | X | X | X | X | X | | | X | | X |
| | Claypit Hill Elementary | X | X | X | X | X | X | | | | X | |
| | Happy Hollow Elementary | X | X | X | X | X | X | | | | X | X |
| | Loker Elementary | X | X | X | X | | X | X | | | | |

Emissions over Time
Total Greenhouse Gases by Fiscal Year.



Fuel Filter
Click a fuel below to filter the report.

- Electric
- Gas
- Oil
- Gasoline
- Diesel
- Propane

Fiscal Year

- ☐ FY 2006
- ☐ FY 2007
- ☐ FY 2008
- ☐ FY 2009
- ☒ FY 2010
- ☒ FY 2011
- ☒ FY 2012
- ☒ FY 2013
- ☒ FY 2014
- ☒ FY 2015
- ☒ FY 2016
- ☒ FY 2017
- ☐ FY 2018

Department

All

Facility

All

12% lower greenhouse gas emissions since 2010

14% lower energy use accounting for larger DPW and high school

Solar projects are visible and save \$



A multi year process; Key ingredients:

- MAPC procurement for Ameresco
- PPA structure, no \$ out for the town and financial gains is a value proposition that Town Meeting supports
- Committee expertise to guide process
- State incentives

The benefits

- \$100K/year in offset electric costs; offsets 25% of town electric use
- 1.3 MW of capacity
- Visible climate action
- **Resiliency at Middle School with back up power in progress**

Streetlights in the works

Over 700 lights

Some incandescent, high pressure, mercury vapor

Three 1915 circa fixtures – time for new technology

Installation expected spring 2018

Savings estimated at over \$60,000/year, funded by

- MA Green Communities grant
- Rebates
- Operating budget

Added 1% reduction in municipal energy use



Aspirational Policy Proposed at April Town Meeting

Proposed Town Meeting Resolution

Wayland shall seek cost-effective design and construction of all new municipal building construction and substantial renovation projects to minimize carbon-based energy use through cost-effective energy efficient design, building system controls, and on-site renewable energy generation and energy storage

Energy and Climate Committee working with two current building projects, library and community center, to ensure they meet these goals taking into account cost.

Solarize and now Mass Energize Wayland!

Building upon successful 2012 Solarize with 2 nearby towns, we embark on Solarize 2017 and the broader Mass Energize which includes:

Simple lighting upgrades for all

Home assessments and energy upgrades

Electric vehicles

Green energy choices

Climate friendly food and food waste options

And more

The challenge: how to get community engagement around climate up and running using new models that we can scale!



Our accomplishments

11 percent energy reduction by entering in a **\$2.4MM ESCO** for municipal building improvements, supplementing prior lighting projects

4 solar projects **reduce town electric costs by 100,000 per year** through the installation of **1.4MW of solar** -- three parking lot canopies and one rooftop array generating enough solar to **offset 25 percent** of the town's municipal energy load

Converting streetlights to LED technology with anticipated savings of **\$60,000 per year**

Over **200 solar installations on homes and businesses**

Resiliency effort will provide **solar powered back up at Middle School – our emergency shelter**

Secured **over \$900,000 in grant funds** to support efforts

Celebrating solar success!



For more information

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