



BEVERLY & SALEM
RESILIENT TOGETHER
CLIMATE ACTION & RESILIENCE PLAN | 2021

Our Bridge to a Stronger Tomorrow

Massachusetts Municipal Association
Climate Action Webinar Series

April 18, 2024

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PLAN BACKGROUND

Shared Past

2009

SALEM

Energy Efficiency & Conservation Strategy

2010

SALEM

Green Community designation by Massachusetts Department of Energy Resources (DOER)

2011

BEVERLY

Green Community designation by DOER

SALEM

Hazard Mitigation Plan update



2014

Salem Climate Change Vulnerability Assessment & Action Plan and Infrastructure Vulnerability Assessment & Prioritization



2015

BEVERLY

Bicycle Network and Pedestrian Plan

Incentivized curbside compost pick-up service

SALEM

Open Space & Recreation Plan

City-wide streetlight LED retrofit

2016

BEVERLY

Open Space & Recreation Plan update (adopted in 2008)

SALEM

100% renewable energy commitment

Community Food Assessment

Opt-Out Green Municipal Aggregation (GMA)

Shared Past

2017

BEVERLY

Coastal Resilience Plan and Infrastructure Vulnerability Assessment

BEVERLY/SALEM

U.S. Climate Mayors member

SALEM

Municipal Vulnerability Preparedness (MVP) Community designation

2018

BEVERLY

C40 Deadline (2020 Commitment to develop Climate Action Plan)

Natural Hazard Mitigation Plan (second update, adopted 2006)

City-wide streetlight LED retrofit

Deadline 2020 commitment to joining Cities Race to Zero

BEVERLY/SALEM

Plastic Bag Ban

SALEM

Bicycle Master Plan

Municipal Street Tree Assessment Project

1 MW solar array on schools

Launched bikeshare program

2019

BEVERLY

MVP Community designation and report

SALEM

Imagine Salem

Solarize North Shore Program

2020

BEVERLY

100% renewable energy commitment

First electric school bus in service

4.9 MW solar array with community solar built on former City landfill

Cities Race to Zero commitment

SALEM

Downtown tree planting project funded by MVP program

Hazard Mitigation Plan Update

2021

BEVERLY

PlanBeverly, the City's Comprehensive Master Plan

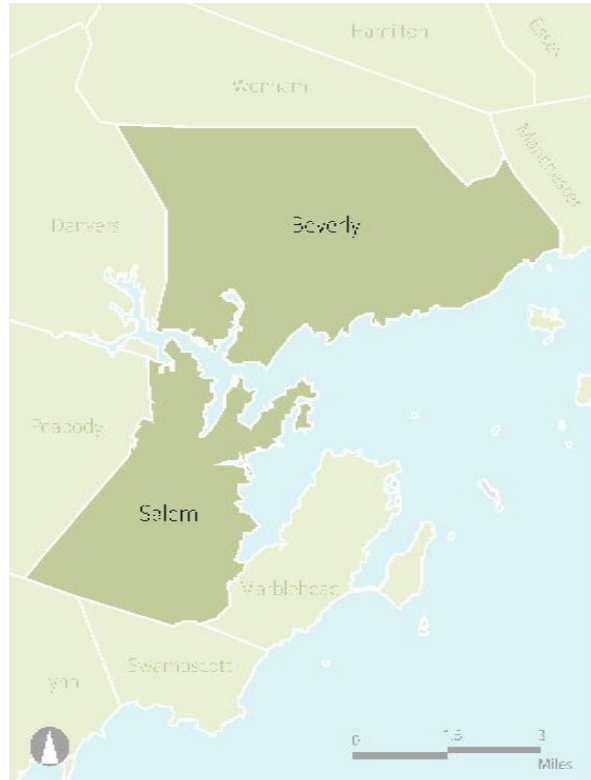
SALEM

Greening the Gateway Cities program to plant 2,000 trees



Shared Present

SHARED WATERWAYS



SIMILAR DEMOGRAPHICS

BEVERLY

POPULATION

42,174

AREA

22.6 SQ. MILES

SALEM

POPULATION

43,226

AREA

18.3 SQ. MILES

SIMILAR CARBON FOOTPRINT

2018 Baseline GHG Emissions

BEVERLY
461,499
MTCO₂e

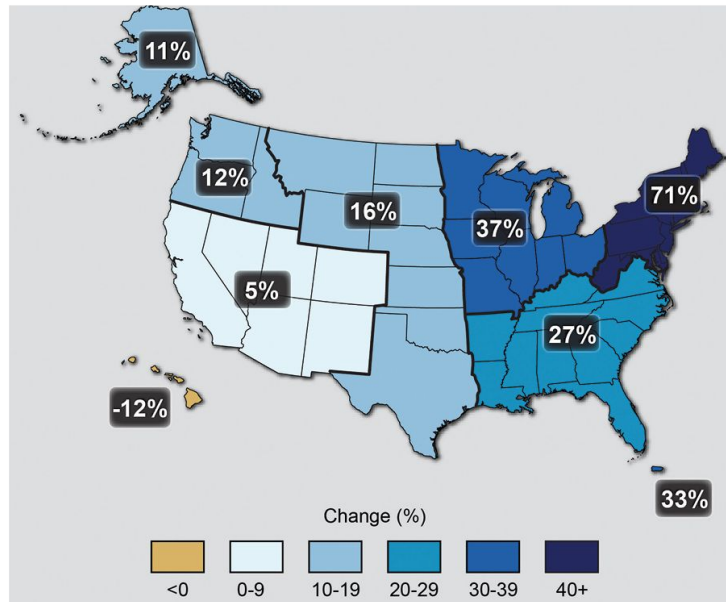
SALEM
419,005
MTCO₂e

Shared Future

CLIMATE CHANGE TRENDS & PROJECTIONS

EXTREME STORMS

Observed Change in Very Heavy Precipitation



what we have already seen:



INCREASE IN RAINFALL FROM
HEAVY STORM EVENTS

what we can expect to see:



INCREASE IN RAINFALL PER
YEAR, MOSTLY IN WINTER

Shared Future

CLIMATE CHANGE TRENDS & PROJECTIONS

SEA LEVEL RISE

what we can expect to see:

3 FT
projected
sea level rise
by 2050

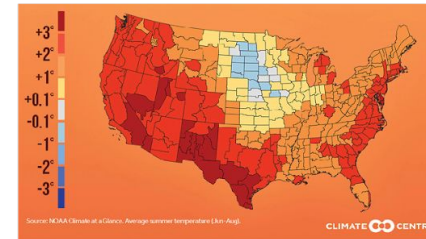
what we have already seen:

nearly
1 FT
of sea level rise
over the last
century



HEAT WAVES

SUMMER WARMING SINCE 1970 (°F)



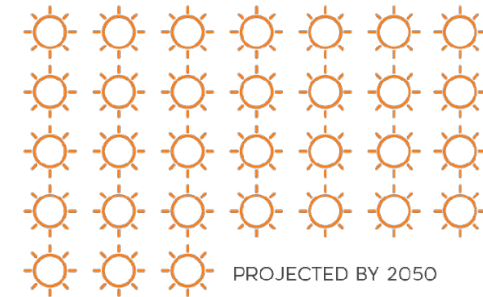
what we have already seen:



←----- 1971-2001 AVERAGE ----->

7
days annually
over 90°

what we can expect to see:

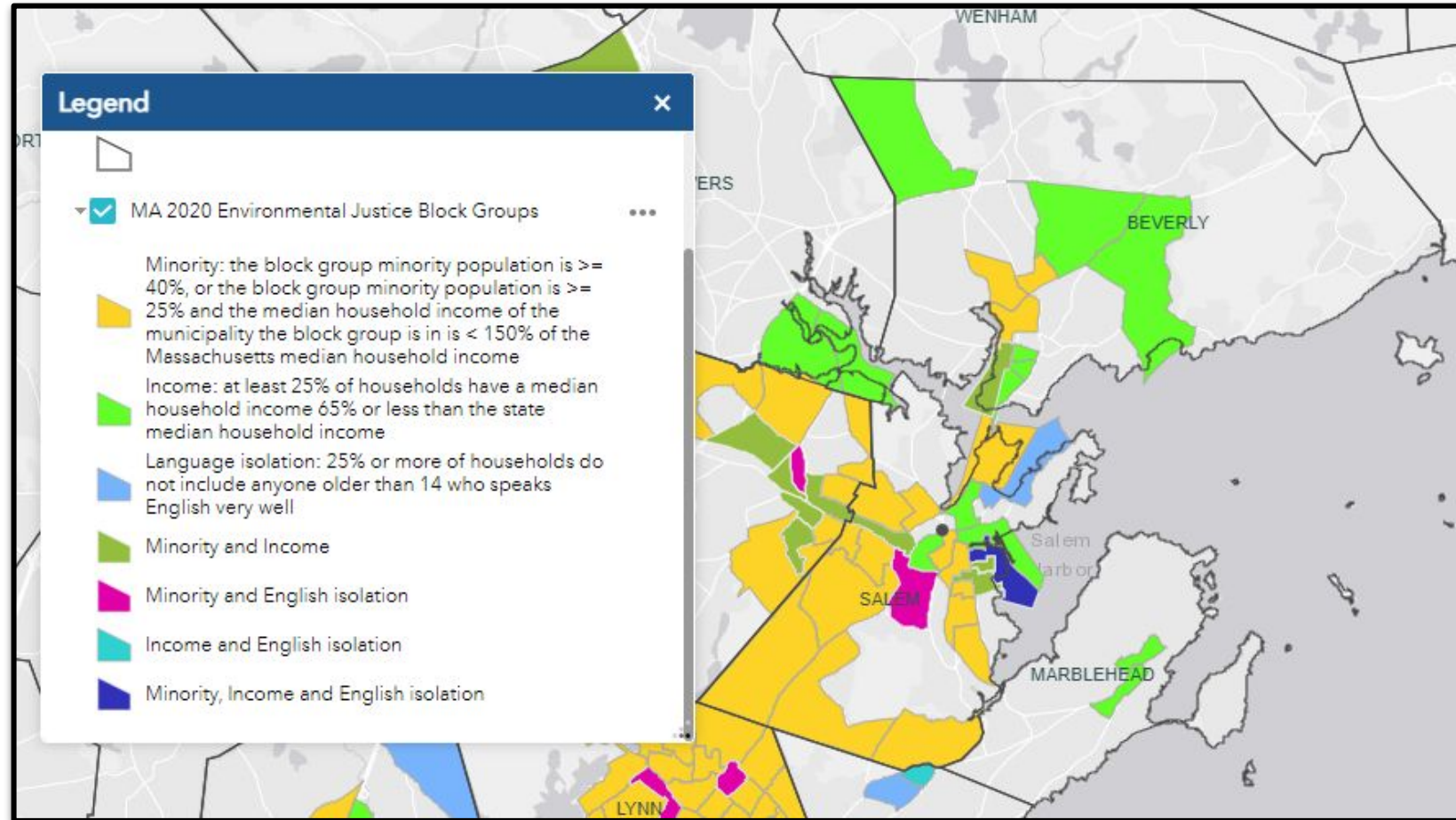


PROJECTED BY 2050

up to **31**
more days
over 90°

Important Differences

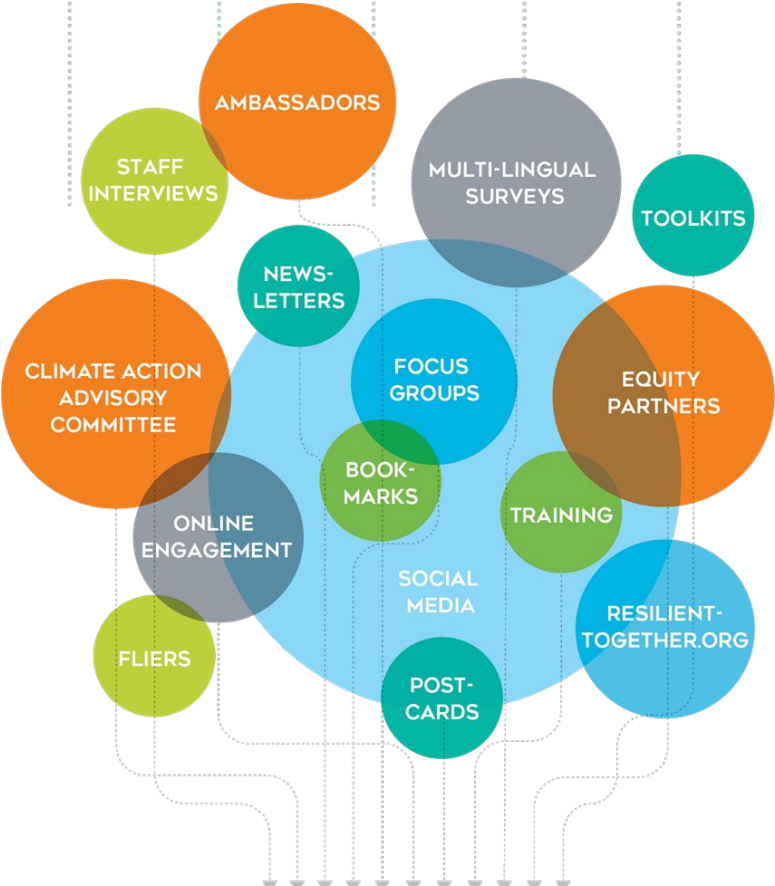
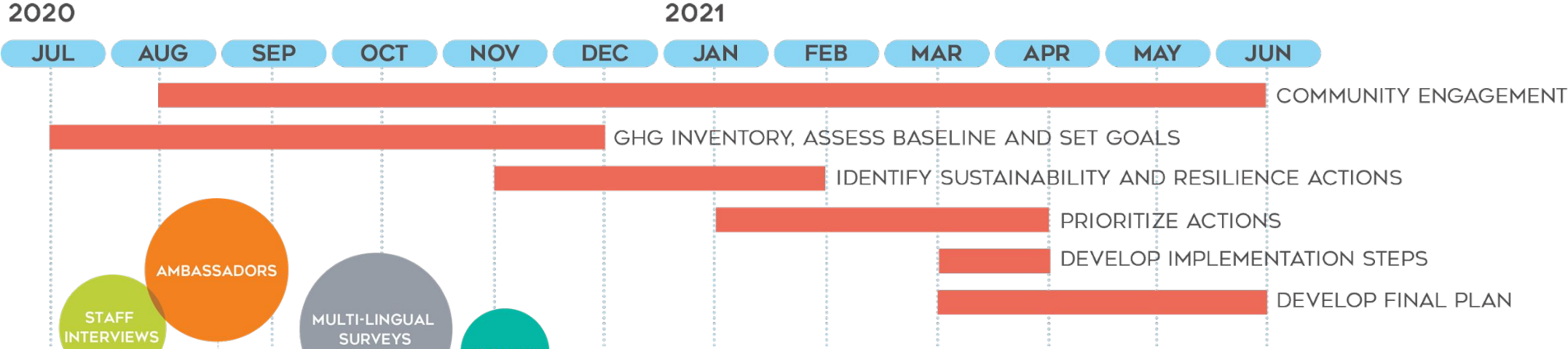
Environmental Justice Neighborhoods





RESILIENT TOGETHER PLAN

Resilient Together Planning Process





Beverly and Salem have
committed to:

REDUCING GHGS

50%

by 2030

**EXCEEDING THE
COMMONWEALTH'S
GOAL TO ACHIEVE**

**CARBON
NEUTRALITY**

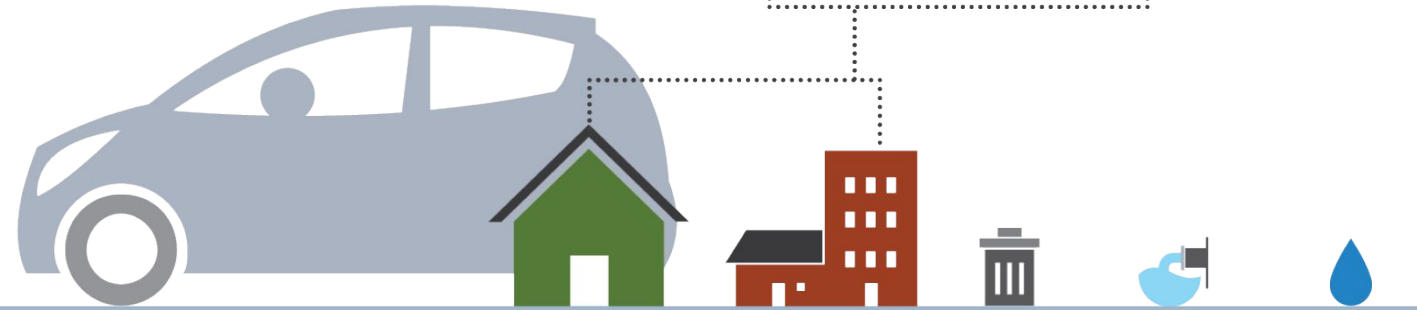
by 2050

GHG Inventory & Forecast

THE ENERGY WE USE TO POWER, COOL, AND HEAT OUR HOMES, OFFICES, AND BUILDINGS IS RESPONSIBLE FOR THE MOST GHG EMISSIONS.

50%
BEVERLY

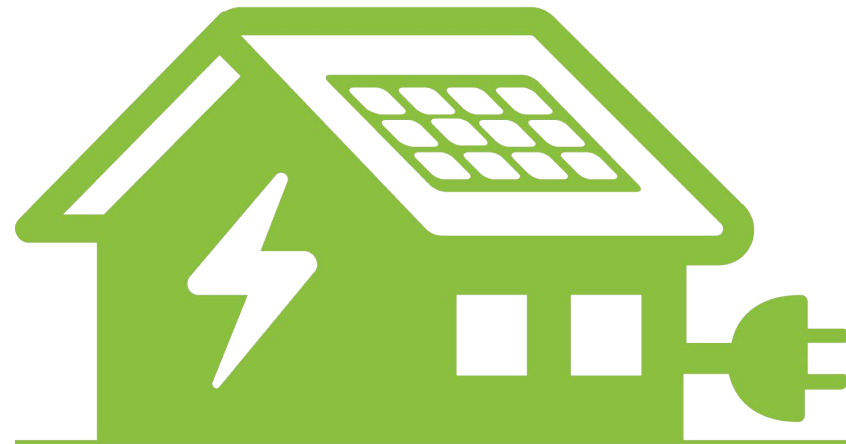
54.5%
SALEM



City	Transportation	Residential Buildings	Commercial Buildings	Waste	Wastewater	Water
BEVERLY	48%	26.4%	23.4%	2%	<1%	<1%

SALEM	43%	29.1%	25.5%	2.1%	<1%	<1%
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BY 2050:

BEVERLY
10,287

SALEM
10,323

**Number of homes to electrify by
2050 to meet carbon neutrality goals**

FOCUS AREAS



**BUILDINGS &
DEVELOPMENT**



**NATURAL
RESOURCES**



**PUBLIC HEALTH
& SAFETY**



SOLID WASTE



MOBILITY



ENERGY



INFRASTRUCTURE

SIX GUIDING PRINCIPLES



**GHG EMISSIONS
REDUCTIONS**



**COMMUNITY
RESILIENCE**



**ECONOMIC
VITALITY**



**RESTORATION &
TRANSFORMATION**



HEALTH



EQUITY



BUILDINGS AND DEVELOPMENT

GOALS

- ▶ The Cities lead by example through adoption of smart, clean, net zero technology in existing and new municipal buildings.
- ▶ All new buildings and major renovations are designed, constructed, and maintained for maximum lifespan, resource efficiency, GHG reduction, and climate resilience.
- ▶ Walkability, connectivity, and social interaction are emphasized through equitable transit-oriented development.
- ▶ Development prioritizes adaptive reuse, brownfield redevelopment, and resilience to protect and restore community historic, cultural, and land assets.
- ▶ The Cities are a model of sustainable, resilient building management focused on excellence in long-term operations and maintenance.



BUILDINGS AND DEVELOPMENT

ACTIONS

BD-1

Encourage and incentivize property owner participation in deep energy retrofits

BD-2

Develop energy performance and electrification standards and incentives for new construction and major renovations to encourage progress toward net zero carbon emissions in buildings

BD-3

Establish requirements for new commercial and multi-family residential properties to include electric vehicle charging infrastructure, eco-roofs, and bike-ped amenities

BD-4

Adopt the state net zero energy building code

BD-5

Host, promote, and invest in trainings and collaborative learning for municipal staff, boards/ commissions, and building industry partners to support energy efficiency and decarbonization practices, from design to ongoing maintenance

BD-6

Establish overlay zoning district(s) that establish minimum flood resilience design standards for new construction and existing buildings



BUILDINGS AND DEVELOPMENT

SHORT= 1-2 YEARS MEDIUM= 3-5 YEARS LONG=5+ YEARS

\$= EXISTING RESOURCES OR <\$10K \$\$= <\$100K \$\$\$= \$100K OR MORE

ID	ACTION TYPE	ACTION	DESCRIPTION	IMPLEMENTATION LEAD	TIMEFRAME	COST
BD-1	Program/ Education	Encourage and incentivize property owner participation in deep energy retrofits.	Reduce barriers for participation in, and actively recruit, homeowners and business owners for deep energy retrofits (over 40% energy use reduction) that are compatible with historic fabric. Clarify incentives and document retrofits through case studies.	Planning Depts, Sustainability	Medium	\$\$
BD-2	Standards/ Guidelines	Develop energy performance and electrification standards and incentives for new construction and major renovations to encourage progress toward net zero carbon emissions in buildings.	The Cities will develop incentives for new construction and major renovations that achieve net zero and net zero ready performance standards, such as Passive House. These standards and incentives will encourage highly efficient, sustainable buildings, not only in advance of the Cities' adoption of a forthcoming net zero stretch code, but also in the medium- and long-term, should provisions such as full electrification be missing from the new stretch code.	Planning Depts, Sustainability	Short	\$\$
BD-3	Policy	Establish requirements for new commercial and multi-family residential properties to include electric vehicle charging infrastructure, eco-roofs, and bike-ped amenities.	The Cities will require electric vehicle charging infrastructure and bike-ped amenities in new commercial and multi-family (5+ units) developments, which will promote the use of EVs and alternative modes of transportation for residents and employees. An eco-roof policy will require the integration of solar-installed or solar-ready roofs, green roofs, or white roofs, which will promote a range of benefits from reducing carbon emissions to mitigating urban heat islands and stormwater runoff.	Planning Dept, Sustainability	Short	\$\$
BD-4	Policy	Adopt the state net zero energy building code.	The building energy code is a critical tool in making advancements toward net zero and net zero-ready new buildings, but in Massachusetts, the base code and stretch code amendments are established at the state level. The Cities will play their part in adopting the zero-energy stretch code to improve occupant health, cut carbon emissions, and make buildings more operationally efficient. The Cities will create development incentives to encourage net zero energy and net zero ready new construction in the near term.	Planning Depts, Sustainability	Medium	\$
BD-5	Training/ Education	Host, promote, and invest in trainings and collaborative learning for municipal staff, boards/commissions, and building industry partners to support energy efficiency and decarbonization practices, from design to ongoing maintenance.	The Cities will seek, promote, and invest in learning opportunities in conjunction with industry leaders (developers, contractors, etc.) to advance the awareness and adoption of energy efficient and clean energy building design, construction, and maintenance. The Cities will incorporate asset management best practices into trainings and focus on workforce development to bolster a proactive maintenance driven culture.	Planning Depts, Sustainability	Short	\$\$



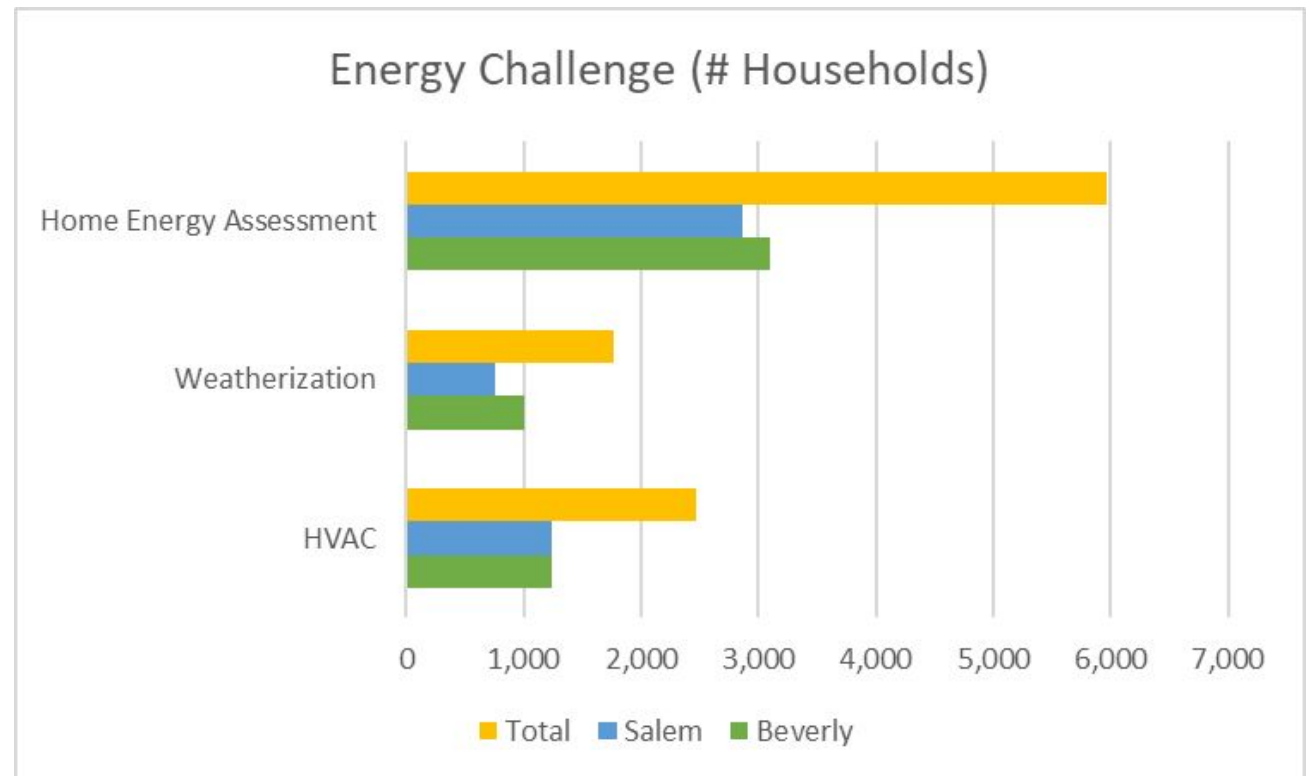
IMPLEMENTATION

Collaborative Programs & Projects



BEVERLY & SALEM
ENERGY CHALLENGE

*Greater impact from Beverly Salem
Energy Challenge than from Mass Save!*



Joint Events



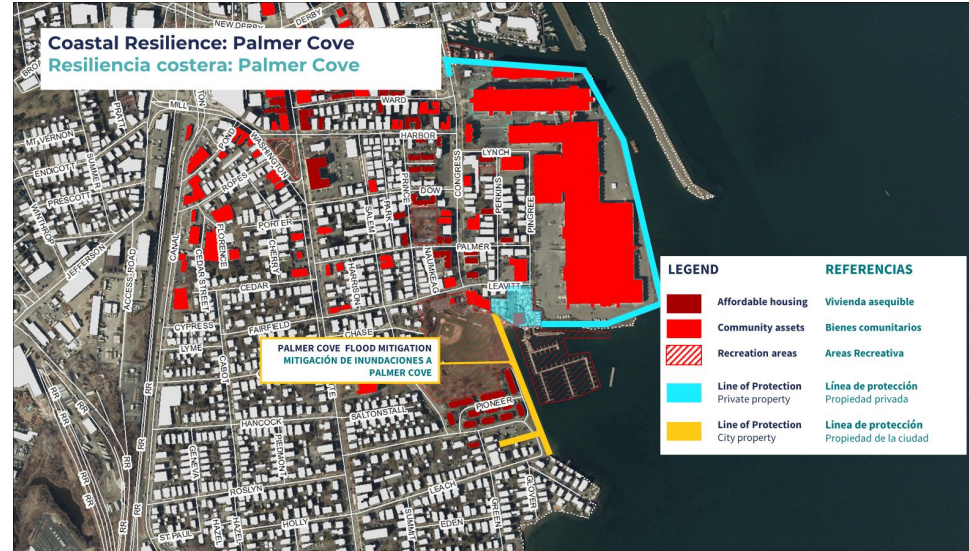
Drive (and Ride!) Electric event
Co-organized



Styrofoam recycling events
Shared costs & committee volunteers

Separate Initiatives - Salem

Resilient Together:
The Point/El Punto



Salem Police EVs

Separate Initiatives - Beverly



**BEVERLY
COMMUNITY
ELECTRIC**

Community Aggregation
Spring 2024 launch

School buses (some electric!) sheltering
under 2022 solar canopy during storm



Do you need a Climate Action Plan?

- Maybe not a full comprehensive plan - other plans are available to borrow from, goals are very similar
- Helpful for baselines and priorities
- Useful for internal and external communications - brand your efforts
- May be required for grants (or at least goals are)

Should I think about a joint Climate Action Plan?

- Existing relationship with the other municipality?
- Support and collaboration
- Similar size cities
- Same utilities



Questions?