



Source:
SoPo Cottage

Resilient Bath Initiative

**Modernize Bath's Buildings:
Weatherization, Efficiency,
Electrification, & Clean Energy
Alternatives**

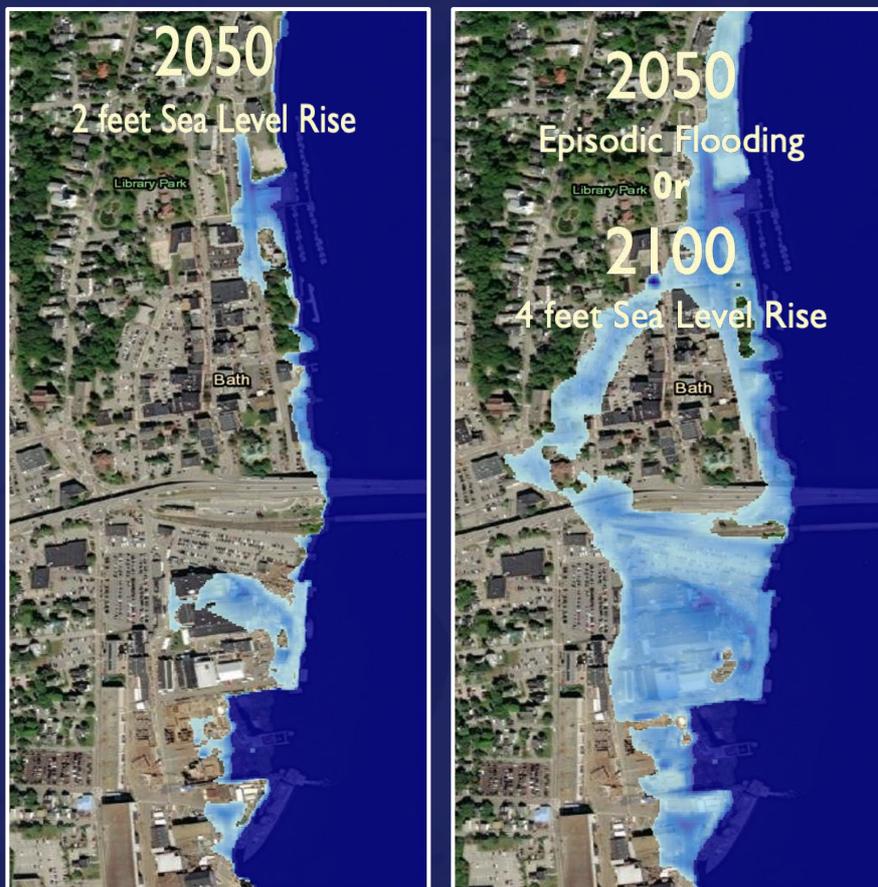


*A guide to help property owners learn
how to save energy & money in their buildings
and protect the climate*

Bath Climate Action Commission

WHY IT MATTERS

Below are renderings of potential **flooding** and increased **storm event** impacts in Bath. The image on the left is a level of flooding that we already see from occasional **high tides** and **storm surge** events. By 2050, those occasional events will have become our **normal** everyday high tide. When one of those same high tide events happens on top of that amount of sea level rise, it will look like the image on the right. In *Maine Won't Wait*, the state's climate council recommends committing to manage **1.5 feet of sea-level rise by 2050 and 3.9 feet by 2100.**

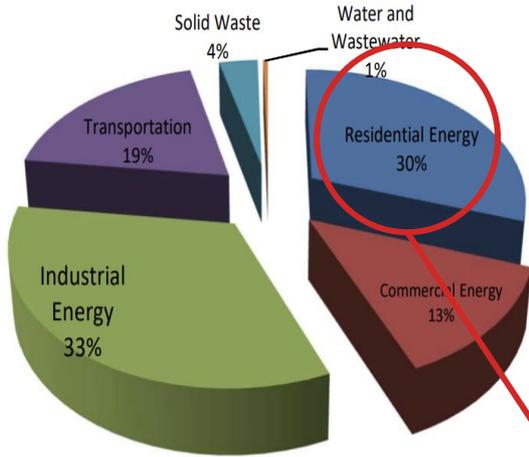


<https://coast.noaa.gov/slr/> accessed 2 July 2021.

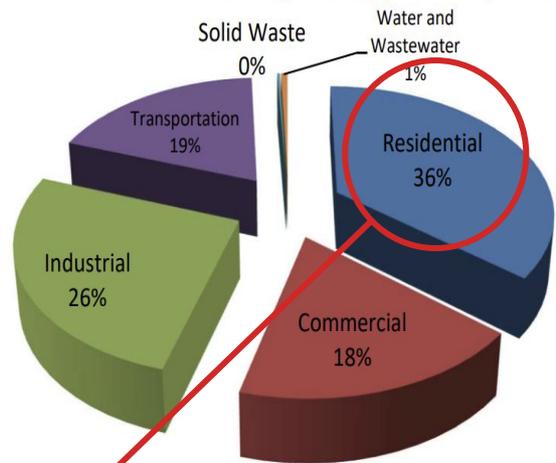
A **transition** is taking place throughout the world, country, and state towards electrifying our systems, making them more energy efficient, and encouraging more renewable energy integration into our grid to combat climate change. The **City of Bath** wants to be a **leader** as this transition takes place in Maine, helping our community become a **healthier**, more **equitable** and **resilient** place to call home.

WHY IT MATTERS

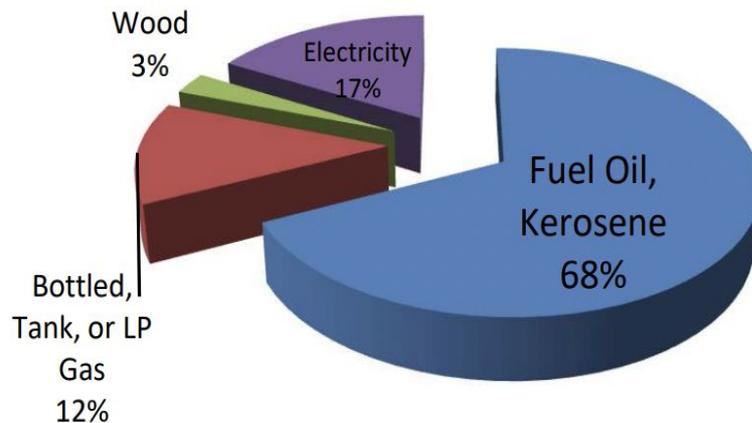
2018 Bath Community Emissions by Sector



2018 Bath Community Energy Use by Sector



2018 Residential Building Emissions by Source



In 2018, CO₂ emissions related to residential housing in Bath accounted for **30 percent** of City emissions, making residential the *second largest* emitting sector as well as the sector with the *highest* energy usage at **36 percent**. Reducing household emissions is vital to keeping climate change in check, saving on energy costs, and ensuring a more healthy community for all.



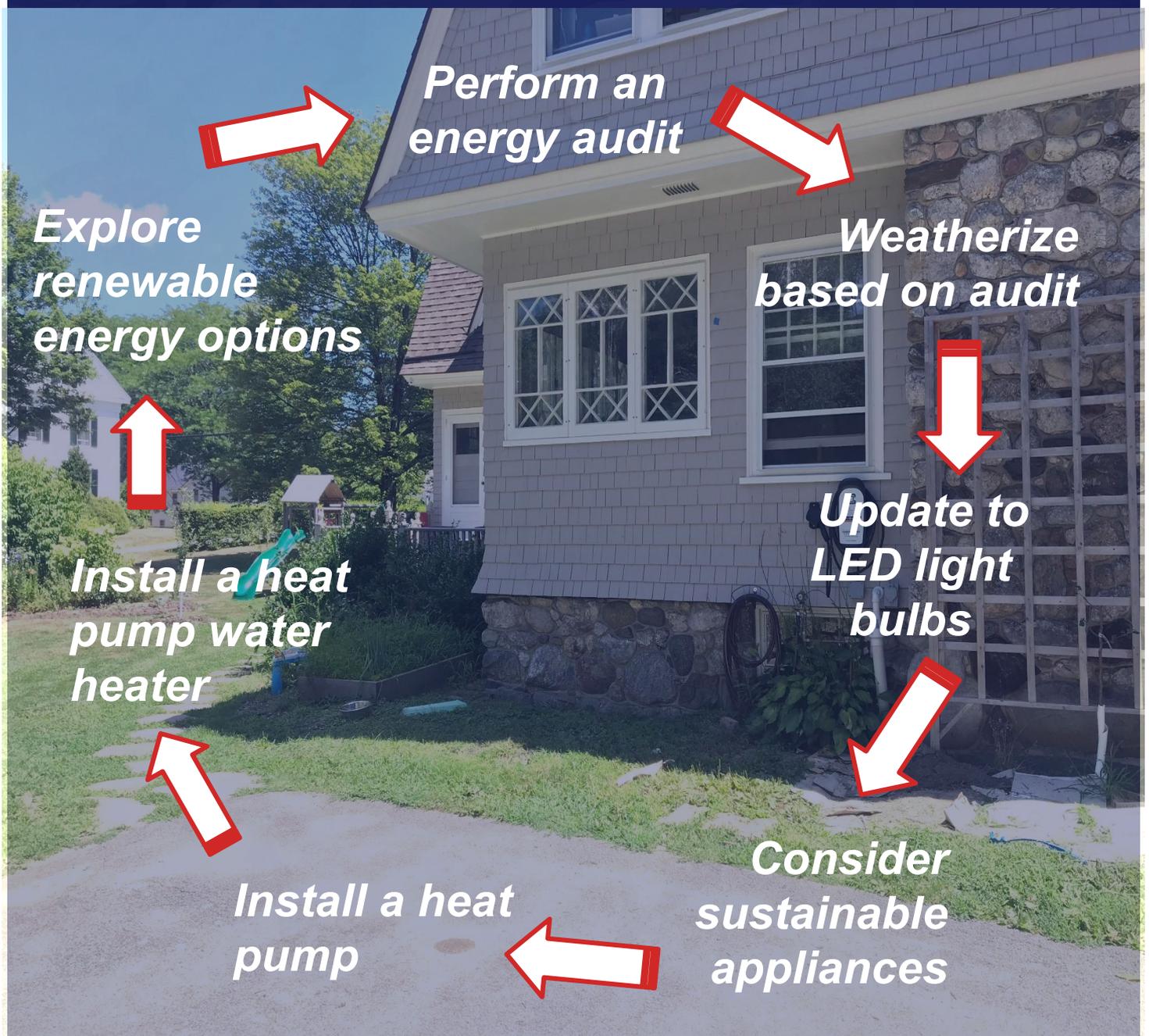
Source: Main Street Maine

The Bath Climate Action Commission understands that knowing where and how to begin your efforts in reducing greenhouse gas emissions and increasing energy efficiency can be an overwhelming process. This resource is meant to be a guide for property owners looking for a place to start these efforts. We encourage property owners to use this as a jumping off point for more specific research and inquiries to find what the best fit is for them. Taking small steps can be affordable and help you to save money on heating and cooling costs in the long run. We look forward to seeing all the amazing work and collaboration our community continues to do to make Bath a safer, healthier, and more resilient place to live.

Bath Climate Action Commission

Guide at a Glance

Transitioning your property does not have to be a linear process. Jump in anywhere in the circle and choose a good starting point for you! If you're unsure where to begin, an energy audit or LED light bulbs is a good place to start!



Perform an energy audit

What is it?

Energy audits provide you with an assessment of where your property might have air leakage (through leaks or cracks) as well as any potential health and safety issues surrounding **air quality** and **moisture control**.

Why should I do this?

Pinpointing where energy is being lost is a good first step to making your property more **energy efficient**. An audit will help you understand where energy can be saved in your property, what energy efficiency and weatherization tools to utilize, and how that translates into **cost savings** for you.

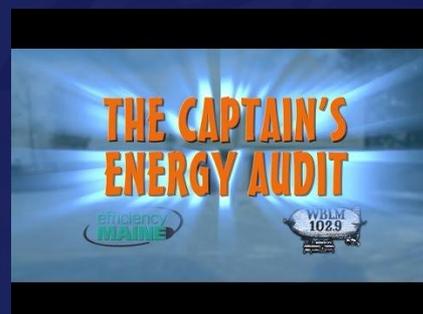
Where do I start?

Efficiency Maine has a search tool of registered vendors in your area. Talk to a few different energy auditors to determine the best fit and price for you. Next, complete the energy audit *with* air sealing. Finally, submit the Efficiency Maine rebate for energy audits, which includes air sealing.

Resources: [Efficiency Maine Energy Assessment](#), [Do it yourself resources](#),
Find an [Efficiency Maine Registered Vendor](#) near you

Rebates: [Energy Assessment w/ Air Sealing and Insulation](#)

Watch this video to learn more about the process of an energy audit



Weatherize based on audit

What is it?

Weatherizing your property can include **sealing spaces** and **installing insulation** where air can escape or enter such as around old leaky windows or doors, around openings into the attic, or from a crawl space or cellar.

Why should I do this?

Air leakage and poor insulation can **waste more than 20 percent** of the energy used to heat and cool your property resulting in money wasted. These tools help you **save energy** and **money**. Weatherizing will also help your property be more comfortable in the hot and cold months and reduce your energy costs, outside noise, and CO₂ emissions.

Where do I start?

After an energy audit, talk with your contractor about insulation options and pricing that fit your budget. Once insulation is installed, submit the Efficiency Maine rebate. You can also check out a [WindowDressers](#) community build near you and build home window inserts to prevent air leakage.

Resources: [Insulation](#), [Air Sealing](#), [Find an Efficiency Maine Registered Vendor](#) near you, [Bath Housing Comfortably Home program](#)

Rebates: [Energy Assessment w/ Air Sealing and Insulation](#), [Habitat For Humanity Weatherizing Application](#), [Maine Housing Home Repair](#)



Air Sealing



Weatherization



Update to LED light bulbs



What is it?

There have been quite a few advancements in more efficient light bulbs in recent decades. LEDs are the most recent innovation and are **83 percent more efficient** than a traditional incandescent and **75 percent more efficient** than CFLs.

Why should I do this?

Installing LEDs in your property will reduce your electricity costs and the amount of light bulb replacements needed. LEDs have an average lifespan of **34 years** compared to 1.4 years for incandescent and 14 years for CFLs.

Where do I start?

Check out the pricing resource below to see what **deals** your local stores offer for LEDs. Then begin replacing old or burnt out bulbs with LEDs. **Recycle** old light bulbs when you're finished with them.

Resources: [LED Information](#) helps you calculate LED energy savings for your property and provides additional information about LEDs.

Pricing: [LED discounted prices](#)

	Incandescent	Halogen	CFL	LED
				
Annual cost of operation/ bulb*	\$9.64	\$6.94	\$2.41	\$1.64

Source:
Efficiency
Maine

Consider more sustainable appliances

What is it?

Sustainable appliances are those that don't use fossil fuels (gas, propane) to run and are as energy efficient as possible. ENERGY STAR® appliances meet strict energy efficiency standards set by the **U.S. EPA**. These appliances can range from clothes washers and dryers to refrigerators, freezers, dishwashers, and air filters. Newer appliances in general will also offer energy savings compared to older models.

Why should I do this?

Investing in sustainable appliances can help **save on energy costs and water usage**. For example, an ENERGY STAR® clothes washer uses 25 percent less energy and 33 percent less water. Additionally, electric appliances help improve the health of your property by removing the risk of leaky gas stoves or dangerous fumes while reducing costs and emissions.

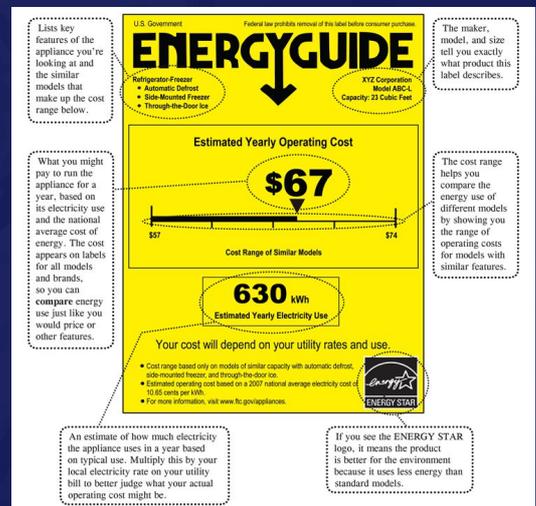
What should I look for?

Let your current appliances run their course, but when it's time to find new ones, transition away from buying fossil fuel appliances. Then, look at the appliance energy consumption and choose the one that will consume the least amount, which will result in **more savings for you**. Efficiency Maine currently only offers rebates for ENERGY STAR® clothes washers and room air purifiers.

Resources: [ENERGY STAR®](#), [Efficiency Maine Appliance Solutions](#)

Rebates: Visit [ENERGY STAR®](#) and click on the appliance of interest. Then, type in your zip code to find local and national rebates.

Click the image to enlarge and learn more about EnergyGuide labels →



Install a heat pump

What is it?

Watch this [video](#) to learn what heat pumps are and how they work compared to traditional heating technology.

Why should I do this?

Heat pumps are a **cleaner alternative** to traditional heating here in Maine such as oil, propane, and natural gas. They are a viable solution for keeping warm during Maine's cold winters, up to -15 degrees and offer a **more streamlined service** by providing both heating and cooling. Heat pumps save on energy costs, improve comfort, and reduce your property's reliance on fossil fuels.

Where do I start?

First, do research on what kind of alternative heating and cooling source is the **best fit for your property**- check out [Efficiency Maine's Heating Cost calculator](#), an excellent resource that compares costs across all options and can provide guidance for hybrid approaches to heating/cooling your property (e.g. heat pumps in tandem with a wood stove). If you do decide on a heat pump, find a model that is **rebate eligible** through Efficiency Maine or one with other financial incentives. Find a registered vendor to install your heat pump. Finally, submit your rebate to Efficiency Maine. If you're not ready to make the change yet, **look out for updates** in technology for more sustainable, cost effective, and efficient options that might be a better fit for you in the future.

Resources:

[General, About Heat Pumps,](#)
[Geothermal Heating & Cooling,](#)
[Geothermal Systems](#)

Rebates:

[Residential, Low/Moderate Income,](#)
[Commercial, Rebate Brochure,](#)
[Geothermal, Maine Housing Heat](#)
[Pump Program](#)

**Hear from fellow
Mainers about
their heat pump
experiences:**



Install a heat pump water heater

What is it?

Watch this [video](#) to learn what heat pump water heaters are and how they work compared to other hot water systems.

Why should I do this?

Heat pump water heaters can be less expensive to purchase with available rebates and can **save over \$3,500** across their 10 year lifespan. In addition to the cost savings, heat pump water heaters also help dehumidify the surrounding air.

Where do I start?

Talk to your local installer about heat pump water heater options to see if it's a good fit for your property. Then, look at the **deals and incentives** to decide what to purchase and where. Submit rebate form if applicable.

Resources: [About Heat Pump Hot Water Heaters](#)

Rebates: [List of Deals, Incentives](#)

**Hear from fellow
Mainers about heat
pump water heaters**



**Learn about the facts
& myths of heat pump
water heaters**



Explore renewable energy options

What is it?

Renewable energy is energy generated from sources considered to be **clean** and **perpetually available**. Examples include: solar, wind, hydropower, and geothermal. Some options for taking advantage of renewable energy include buying “green power” from your power company, installing onsite systems, or investing in community solar farms.

Why should I do this?

Once you have made your property as energy efficient as possible, investing in renewable energy will lead to **even more savings** in the long run. It also reduces reliance on fossil fuels, helps minimize the adverse health effects associated with combustion, and shields you from fluctuating oil prices.

Where do I start?

If you'd like to purchase renewable energy from CMP, [Maine Green Power](#) allows you to buy clean energy without disruption to your normal service. For just a few extra dollars a month, your money helps invest in more renewable energy projects in Maine and you receive Renewable Energy Credits (RECs) on your utility bill. Mainers wishing to generate their own energy have mostly solar options to do so. To install solar panels on your property, look into: [Rooftop](#) or [Ground Mount Solar](#) options. If you want an alternative to buying panels, [Community Solar](#) gives property owners two options to get power from solar. You can **own** panels within the solar farm, which are eligible for [financial incentives](#). Another more cost-effective option is to **subscribe** to power from the solar farm, which requires no upfront costs or long-term commitment. In Maine, community solar subscribers can save between **5-15 percent** off electricity costs. [Maine Community Solar](#) or [EnergySage](#) can help you get started!

Resources: [ReVision Energy Solar Evaluation](#), [Assured Solar Energy](#), [Maine Solar Solutions](#)

Financing: [Federal Renewable Energy Tax Credits](#), [EnergySage Solar Financing](#), [Solar Loans & Financing via ReVision Energy](#)

Click the image to watch ReVision Energy webinars about solar!



CHECKLIST:

Modernize Bath's Buildings

Use the checklist below to track your progress on modernizing your property:

Perform an energy audit and weatherize

- Contact a [registered vendor](#)
- Conduct energy audit and air sealing
- Insulate wherever necessary
- Fill out [Rebate Claim Form](#) from Efficiency Maine
- Participate in a [WindowDressers](#) community build event

Upgrade to LED lighting and sustainable appliances

- Determine which lights and appliances need replacing
- Price out [LEDs](#) and new appliances with available [rebates](#)
- Decide what to purchase
- Recycle old [light bulbs](#) and [appliances](#) or donate appliances if still in working condition.

Upgrade to a heat pump and/or heat pump water heater

- Look at [Efficiency Maine's Heating Cost calculator](#)
- Decide what to purchase and make sure it is [rebate eligible](#)
- Contact a [registered vendor](#)
- Determine if you also want a heat pump water heater
- Fill out [Rebate Claim Form](#)

Explore renewable energy options

- Decide what your best renewable energy option is: produce your own or enroll in [Maine Green Power](#)
- If you decide to produce your own: Check out pricing and [financing options](#)
- Decide what to purchase and which provider to use
- Apply for [tax credit](#)

Additional Resources

- Do you qualify for LIHEAP (Low Income Home Energy Assistance Program)? Find out, here.
- Information for Maine landlords
- Could energy efficiency upgrades make your property sell faster? Find out, here.
- For additional resources and rebate information, visit efficiencymaine.com

For more information:

Visit our website

cityofbath.com/ClimateActionCommission

**for updates on community events
and resources!**

