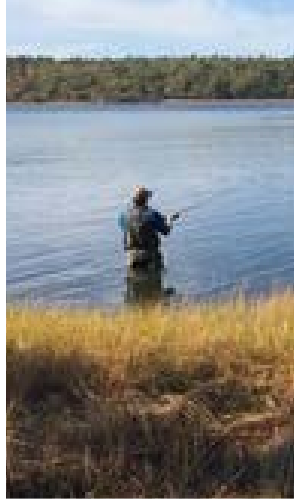


# climate resilience handbook

**Developed for the residents of Arrowsic, Maine.**

Published in Spring 2024.



# community support

## Acknowledgments

This handbook was developed by the Arrowsic Climate Resilience Committee with input from the Arrowsic Conservation Commission and town residents. Funding was provided by Maine's Community Resilience Partnership program. The handbook design and layout was done by Jess Donohoe.

## Dedication

Bill and Noreen Blaiklock were longtime Arrowsic residents who died in 2023. They modeled resilience in the way they lived their lives. Woodcock Farm was their home, the last active farm in Arrowsic, where they sold organic eggs, meat and wool. Bill served on several town committees, and he was a founder of the Kennebec Estuary Land Trust which has permanently protected thousands of acres. Noreen was an herbalist known by many who came to her for healing and guidance and was an active member of the Conservation Commission for many years. Noreen wrote poetry, created felt art with wool from her sheep, and sang with her neighbors, building community connections along the way.

We can all use Bill and Noreen's deep dedication to our wild and human communities to inspire us to take action.





Evan D'Souza

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Arrowsic Fire Department

# build your climate resilience

## Why

The reality of human-caused climate disruption isn't a problem for future generations. The planet is experiencing the effects today, especially in Arrowsic. Most noticeably, storms are happening more frequently and at a greater intensity, leaving our island increasingly susceptible to frequent road flooding and power outages, among other issues. These vulnerabilities are only likely to get worse in the future.

But this isn't a handbook designed to leave you feeling helpless in the face of climate change! Our intention is to empower you to make practical changes at home and in your daily life to help you be prepared as the climate changes. In short, this is a handbook designed to help you build resilience.

It can also be used as a guide to lighten your step on the environment. Individual actions aren't a substitute for the systemic change needed to transition to a clean energy economy—changes that need to come from policymakers. But when we take these small actions collectively, as a community, they contribute to a healthier, more hopeful place to live.



Jesse McMahon

# build your climate resilience

## In These Pages You Will Find

- Low-cost ways to improve the energy efficiency of your home, as well as opportunities for financial support to upgrade appliances and heating and cooling systems
- Information on ways to support the town's ability to respond to emergencies, lend a helping hand to vulnerable community members, and prepare your household for an emergency event
- Small changes you can make in the home to reduce waste and conserve energy and water
- Small changes you can make in your daily life to reduce, refuse, repurpose and reuse (and maybe save some money as well)
- Links to additional resources to help you learn more and take action, including the town's Recycling Brochure, Climate Action Plan, and Stewardship Guide

# prepare for emergencies

## Why?

We depend on the volunteers of the Arrowsic Fire Department (AFD) to help us during adverse events, including medical emergencies, vehicle accidents, fires, fallen trees, and flooded roads. While additional support from neighboring towns is typically available, a severe region-wide incident will limit access to our island.

## Steps You Can Take

### Join & Support the AFD

There are many ways to volunteer with the department, from being an active firefighter to assisting with traffic control at scenes and providing support.

### Driveway Marking

Ensure your driveway is clearly marked from both directions and 16 feet wide so fire trucks can access.

### Clear Home Signage

Consider signage near the entry to your home alerting fire fighters of your house number, the presence of children or pets, and the use of oxygen.

### Power Outages

Charge cell phones, other devices, and electric vehicles before a storm causes power outages.

### Stay Connected

Check in with neighbors during storm events to see if they need help.

### Generator Awareness

Know your backup generator. Never use one in an enclosed area or near a window. Check oil level. Learn how to save fuel so it will last for a week as downed trees and wires may delay fuel delivery.



Arrowsic Fire Department

### Risk Assessment:

Get a detailed assessment of one's property for risks from flooding, wind, precipitation, heat, fire, and drought, and what you can do to mitigate them. Visit [Maine Flood Hazard Map](#) and type in your address.

### Vehicle Preparedness

Create a kit for your vehicle including water, non-perishable food, flashlight, and blankets. Prepare by storing enough (ready-to-eat) food, water and medications for family and pets for at least a week. If you must drive during a storm, check tides and weather.

## Resources

### Check Monthly Memos on SCEMA Website:

[www.sagadahoccountyme.gov/departments\\_and\\_services/emergency\\_management\\_agency\\_and\\_board\\_of\\_health/monthly\\_memos.php](http://www.sagadahoccountyme.gov/departments_and_services/emergency_management_agency_and_board_of_health/monthly_memos.php)

### Sign up for Emergency Notifications:

To sign up for road closures and more, call 207-443-8210 or go to [www.sagcounty.com/departments/ema/emergency-notification](http://www.sagcounty.com/departments/ema/emergency-notification)

# protect against wildfires

## Why?

Many of our homes were built on the edges of forests, leaving them vulnerable to wildfires. Climate-driven wildfires are expected to increase. They can cause property damage and force residents to evacuate their homes.

## Steps You Can Take

### Check Fire Danger Report

Before you light an open fire, check the day's conditions go to the Arrowsic Fire Dept page for links, and [obtain a burn permit](#) online from the [Maine Forest Service](#).

### Protect Your Home

Prepare by creating a defensible space around your home: Reduce the amount of vegetation, especially near the foundation, and remove most of the trees and shrubs within 30 feet of structures where regulations allow (within 250 feet of

the water, removal of live vegetation first requires a permit from the Code Enforcement Officer).

### Roof Considerations

Consider a metal roof for new and replacement projects.

### Keep Your Roof Clean

Many houses catch fire from airborne embers. Keep needles and leaves off roofs, out of gutters, and away from decks and foundations.



Arrowsic Fire Department

## 2016 Wildfire

In May of 2016, firefighters from nine towns converged at the end of the Bald Head Road to put out a fire that raged over eight acres. Arrowsic Fire Department's current Fire Chief, Dale Carlton, observed flames reaching 8 feet high. Twenty five helicopter loads of water were dumped on the fire. After 5 tense hours of firefighting, it was declared "out".

## Resources

### Wildland Urban Interface:

[www.usfa.fema.gov/wui/what-is-the-wui.html](http://www.usfa.fema.gov/wui/what-is-the-wui.html)

### Prevent Wildfires:

[www.usfa.fema.gov/wui/communities/take-action.html](http://www.usfa.fema.gov/wui/communities/take-action.html)

### SCEMA - Wildfires:

[www.sagadahoccountyme.gov/departments\\_and\\_services/emergency\\_management\\_agency\\_and\\_board\\_of\\_health/april\\_wildfires.php](http://www.sagadahoccountyme.gov/departments_and_services/emergency_management_agency_and_board_of_health/april_wildfires.php)

# home energy plans

## Why?

The cleanest and cheapest form of energy is the kind that isn't used at all. This concept is at the core of energy efficiency – an approach to meeting all of your energy-using needs with the least amount of energy consumption.

To increase the energy efficiency of existing homes, it's best to develop a plan. You should start with the changes that reduce your energy use and prevent air that you're heating or cooling from escaping to the outdoors, before you invest in new equipment. Following this process will ensure any major equipment that provides or uses energy will be the right size (and the right cost!) for what you need.

## Steps You Can Take

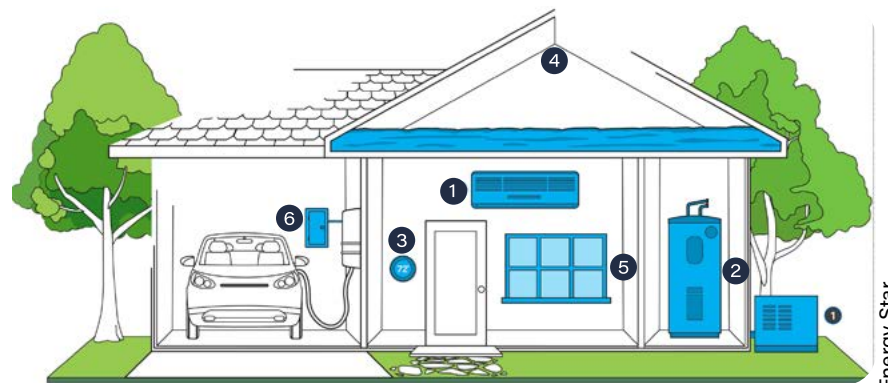
### Home Assessments

You can do your own home assessment or hire a professional. Either way, understanding the basics of home efficiency will help you move forward and save money!

### Appliances

Don't worry about going slow. The most cost-effective time to upgrade refrigerators, ovens, washing machines, and other appliances is at the end of their operating lives (generally 10 to 15 years).

The US EPA Energy Star label is an easy way to know you're buying energy-efficient products, including fans, windows, and appliances, while helping you save costs.



Energy Star

The image above contains the six areas of a home where efficiency improvements can be made: ① Clean Heating and Cooling ② Super-Efficient Water Heater ③ Smart Thermostat ④ Well-Insulated and Sealed Attic ⑤ High Performing Windows and Storm Doors ⑥ Electric Ready



ENERGY STAR® is the government-backed symbol for energy efficiency. The blue ENERGY STAR label provides simple, credible, and unbiased information that consumers and businesses rely on to make well-informed decisions.

## Resources

**Step-by-Step Guide:**  
[www.energy.gov/energysaver/why-energy-efficiency-upgrades](http://www.energy.gov/energysaver/why-energy-efficiency-upgrades)

**Maine Financial Incentives:**  
[www.maine.gov/climateplan/taking-action/](http://www.maine.gov/climateplan/taking-action/)

**How to Check Your Home's Insulation:**  
[www.energystar.gov/products/ask-the-experts/how-to-check-your-homes-attic-insulation-level](http://www.energystar.gov/products/ask-the-experts/how-to-check-your-homes-attic-insulation-level)



# energy efficiency improvements

## Why?

Reducing unnecessary energy consumption through efficiency can lower utility bills by 10-20%. Energy efficiency is also one of the cheapest and easiest ways for people to directly improve our climate. Using less energy reduces the use of fossil fuels (natural gas, coal, and oil), the most significant contributors to climate change. If you're already using some form of renewable energy, or thinking about solar, you'll save money. For example, a more energy efficient home requires fewer solar panels to meet your needs.

## Steps You Can Take

### Building Envelope

Start by improving your "building envelope" before tackling large equipment used to heat and power your home—upgrade insulation in your attic and crawlspace; make window improvements; and seal cracks where air is coming in from outside.

### Light Bulbs

Replace light bulbs and fixtures with LEDs to realize significant energy and cost savings.

### Appliances

Upgrade appliances for efficiency or convert to electric appliances when they are due for replacement.

### Heat pumps

Heat pumps are currently designed to meet Maine's winter temperatures, with lower operating costs compared to gas or propane heat, and have the added bonus of providing air-conditioning in the summer. EfficiencyMaine



Karin Sadtler

offers free heat pumps and installation to income eligible households and tax rebates to others.

### Solar

Rooftop and community solar are ways you can move to cleaner energy production and provide options for different locations and budgets.

### Storage Batteries

Adding storage batteries to solar improves the efficiency of the solar set-up — it stores energy for when the panels aren't producing.

## Resources

### Efficiency Maine:

[www.energymaine.com/heat-pumps/](http://www.energymaine.com/heat-pumps/)

### Solar Tax Incentives:

[www.energymaine.com/renewable-energy/solar-electric/](http://www.energymaine.com/renewable-energy/solar-electric/)

### Community Solar Information for Maine:

[www.maine.gov/meopa/electricity/renewable-energy/community\\_solar](http://www.maine.gov/meopa/electricity/renewable-energy/community_solar)

# reduce, reuse, recycle

## Why?

Solid waste is contained in sanitary landfills but it is becoming increasingly difficult to find appropriate sites that offer adequate capacity, accessibility, and environmental conditions. Food and yard waste accounts for an estimated 30% of the tonnage sent to landfills where its decomposition emits a greenhouse gas 30 times more potent.

## Steps You Can Take

### Learn to Compost

Food and yard waste can be composted. This can be as simple as a passive heap in the woods or you can channel your inner nerd, to produce perfect compost for your garden. Either way, you are having a huge impact on your carbon footprint.

### Repair First

Before you replace a broken or damaged item, consider if it can be repaired. Look for Repair Cafés at local libraries and check out YouTube for “how to” videos.

### Get Creative With Food

Reduce waste by planning meals, getting creative with leftovers and frequently scanning the back of your fridge.

### Get Thrifty

Before buying a new item, check out consignment and resale shops, the Arrowsic Swap Barn, Freecycle, etc. Or, if you need something for a short period, such as a specialized tool, consider borrowing it from a friend or neighbor or renting it from a hardware store.



planetnatural.com

## Resources

### Arrowsic's Composting Brochure:

[www.arrowsic.org/recycle/aswrc-composting-brochure\\_5-16-rev3.pdf](http://www.arrowsic.org/recycle/aswrc-composting-brochure_5-16-rev3.pdf)

### Composting Options:

[www.youtube.com/watch?v=eO4HdrlXnVU](http://www.youtube.com/watch?v=eO4HdrlXnVU)

### NRCM Composting Toolkit:

[www.nrcm.org/programs/sustainability/sustainability-toolkits/compost-toolkit/](http://www.nrcm.org/programs/sustainability/sustainability-toolkits/compost-toolkit/)

### Maine Gear Share: Local Gear/Clothing Rental & Repair

[www.maine-gearshare.org](http://www.maine-gearshare.org)

# low-carbon transportation

## Why?

The transportation sector is responsible for nearly 30 percent of U.S. greenhouse gas emissions, with cars and light-duty trucks accounting for the largest portion. On a day-to-day basis, vehicles are a prime contributor to emissions.

## Steps You Can Take

### Carpool

Even if you work from home or do not have a regular commuting schedule, try connecting with neighbors and friends to maximize traveling with more than a single passenger. Go-maine.org is a popular ride sharing website.

### Vehicle Maintenance

Maintain a "healthy" vehicle. Change air filters, keep tires inflated, empty junk from your vehicle and remove roof racks when not in use. Driving at higher speeds is inefficient.

### Maximize Trip Efficiency

Plan ahead when running errands to minimize trips to town. Bundling your shopping needs will reduce emissions and is less time in the car for you.

### Transportation

Bike, walk or take public transportation if possible. Good for you and the environment.

### Go Electric

EVs and ebikes are the future and the technology and incentives have arrived!



Walter Briggs

## Resources

### Electric Vehicle Information & Rebates:

[www.energymaine.com/electric-vehicle-rebates/](http://www.energymaine.com/electric-vehicle-rebates/)

### Tax Credits for Cars, Homes, & Buildings:

[www.irs.gov/credits-deductions/clean-vehicle-and-energy-credits](http://www.irs.gov/credits-deductions/clean-vehicle-and-energy-credits)

### Maine Electric Vehicle Charging Station Map:

[www.energymaine.com/charging-station-locator/#/analyze?fuel=ELEC&region=US-ME&show\\_map=true](http://www.energymaine.com/charging-station-locator/#/analyze?fuel=ELEC&region=US-ME&show_map=true)

# small steps that count

## Why?

In our global effort to reduce greenhouse gasses, small changes can come together to make a difference. Most products that we consume in our daily lives require land, water and fossil fuels to produce, use and transport. These products inherently come at an environmental cost.

## Steps You Can Take

### Returnables for AFD

Pick up free Clynk bags for all your returnable cans/ bottles to help our Fire Department. Bags are available at Recycle Shed, Swap Barn and Town Hall.

### Shopping Bags

Stash reusable bags in your car so you have them for all your shopping. Use reusable mesh bags for fruits & veggies.

### Soaps

Replace liquid soaps with bar soaps, or bring your own container and find refillable options.

### Packaging

Avoid plastic packaging (look for cardboard, glass, or aluminum).

### Laundry

Use cold water for washing clothes, and wool dryer balls instead of single-use dryer sheets. Hang your laundry when the weather allows.

### Bottles & Mugs

Travel with reusable water bottles and a coffee mug/ thermos.

### Food

Eat less meat and dairy. Give "Meatless Mondays" a try.



Jody Jones

### Remove Invasive Plants

Identify & destroy invasive species on your property like Knotweed, Buckthorn, and Swallowwort. Consider the physical removal of plants or use organic herbicides.

### Appliances

Run appliances (dish & clothes washers) at night to reduce strain on the grid. Clean their filters regularly.

### Garden

Start a vegetable garden, and protect wildlife by going organic.

## Resources

### Invasive Species:

[www.maine.gov/dacf/mnap/features/invasive\\_plants/invasives.htm](http://www.maine.gov/dacf/mnap/features/invasive_plants/invasives.htm)

### Climate Action Plan:

[www.arrowsic.org/climate.html](http://www.arrowsic.org/climate.html)

### Recycling Brochure:

[www.arrowsic.org/recycle/recycle-brochure.pdf](http://www.arrowsic.org/recycle/recycle-brochure.pdf)

### Stewardship Guide:

[www.arrowsic.org/uploads/Stewardship\\_Arrowsic.pdf](http://www.arrowsic.org/uploads/Stewardship_Arrowsic.pdf)

### Rewilding & Native Plants:

[www.wildseedproject.net](http://www.wildseedproject.net)

# Projected Sea Level Rise

**Inundation of Arrowsic during highest tides and 3.9ft sea level rise.\***



\*Estimated to occur by 2100

