

Sustainability Report

2024



Now is the time for action

This past winter, our region has been routinely pummeled with flooding, ice and wind that would have been considered generational events for our parents and grandparents. The impacts on the structure of our communities, on the livelihoods of our community members, have been profound—and they are still growing.

Cobscook Institute’s mission to promote individual, community, and global well-being demands a clear recognition that in the present moment, climate change represents the most pervasive and intractable threat to all of those things. It also demands a powerful and effective response.

We know from the acceleration of environmental impact on our region that “business as usual” is no longer sustainable. This report is the result of our campus Climate Response Working Group’s first step to change how we do business: to make an honest assessment of where we stand in terms of our contributions to human-influenced climate change, so that we can identify where action is most urgently needed and most possible for us, and to support our community members in making informed, effective change more broadly.

The framework for this action is our 2023-2026 Strategic Plan, that includes the following steps:

- Establish a Climate Response Working Group to coordinate sustainability efforts

- Produce a roadmap to achieve science-based climate change targets for 2030
- Execute the first major initiative of the roadmap
- Build regional climate-response capacity through education and network-building.

We have already established the Climate Response Working Group, and this report is the result of this group’s efforts to inventory our Greenhouse Gas (GHG) emissions for 2023. In this report, you’ll find our total CO₂ equivalent (CO₂e) GHG emissions for 2023, as well as breakdowns by scope and category, and the other 6 emissions categories required by the GHG Protocol Reporting Standard.

We have set an ambitious emissions reduction target of 45% by 2030, aligning us with Maine Won’t Wait, and have begun working to roadmap what projects we’ll need to complete to meet this target. The first major project, building a campus solar array, is in the planning phases, and we are hopeful work can begin this year. You can find our other potential emissions reduction projects in this report on the roadmapping page.

We hope you’ll find this report informative and useful in your own sustainability initiatives. We have additional information and resources on our website at cobscook.me/electrify, and we welcome any feedback or questions you have at cobscook.me/contact.

The Climate Response Working Group



Dylan Pardue

*Climate Response
Coordinator, Director
of Technology*



Bonnie Lyons

Facilities Manager



Shaun Haskins

*Co-Director and
Director of
Development*

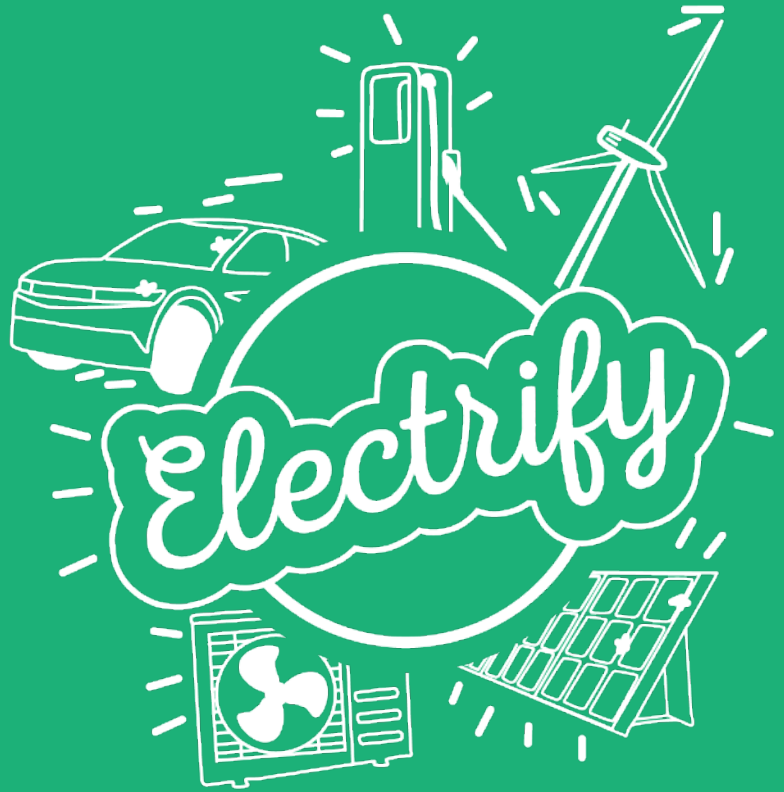
What are Scopes?

Scope 1: Direct emissions from facilities/operations - vehicles, propane appliances, etc.

Scope 2: Indirect emissions from purchased utilities - grid electricity.

Scope 3: Indirect upstream and downstream emissions - staff commutes, landfill, etc.

See graphic on page 6 for more



Our Emissions Reduction Target

Cobscook Institute commits to a 45% absolute reduction of scope 1, 2, 3, and biomass global emissions by 2030 from 2023 levels, to support limiting global warming to 1.5° C above pre-industrial levels.

2023 Emissions

242 metric tons

Total CO₂ equivalent emissions

11 kg

Methane (CH₄)

5 kg

Nitrous oxide (N₂O)

Reporting Approach and Methodology

This report includes data covering our fiscal year from January 1, 2023 to December 31, 2023.

We mainly use the EPA Center for Corporate Climate Leadership’s GHG inventory guidance for emissions accounting and reporting, which is aligned with The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (GHG Protocol Corporate Standard) developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), which is the global standard for calculating corporate GHG emissions.

We use the operational control approach to define our organizational boundary, which means that we account for all emissions from operations over which we have control. We define operational control as having the authority to introduce and implement operational policies over an asset, and we report all emissions for Cobscook Institute’s campus buildings, vehicles, and other assets under our operational control.

Our Scope 1 and Scope 2 emissions include three of the seven GHGs addressed by the

Kyoto Protocol—carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Other GHGs, including hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃), aren’t included in our inventory, as they’re not emitted as a result of our operations.

CO₂ equivalent (CO₂e) is a measure used to compare the emissions from various greenhouse gases on the basis of their global-warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.

We mainly use the EPA’s Simplified GHG Emissions Calculator to calculate our emissions, however in some cases we use a different calculation method. More information for how each scope was calculated is available on the following pages.

Recognizing the global warming potential of burning wood for heat, we have included our biomass emissions in our total CO₂ equivalent emissions and emissions reduction goals in this report, breaking with the guidance in this case.

Largest emissions sources

These top six sources account for 76% of our total CO₂e emissions.



94
metric tons CO₂e
Wood Boilers
Biomass



27
metric tons CO₂e
Staff Commutes
Scope 3



21
metric tons CO₂e
Electricity (Grid)
Scope 2



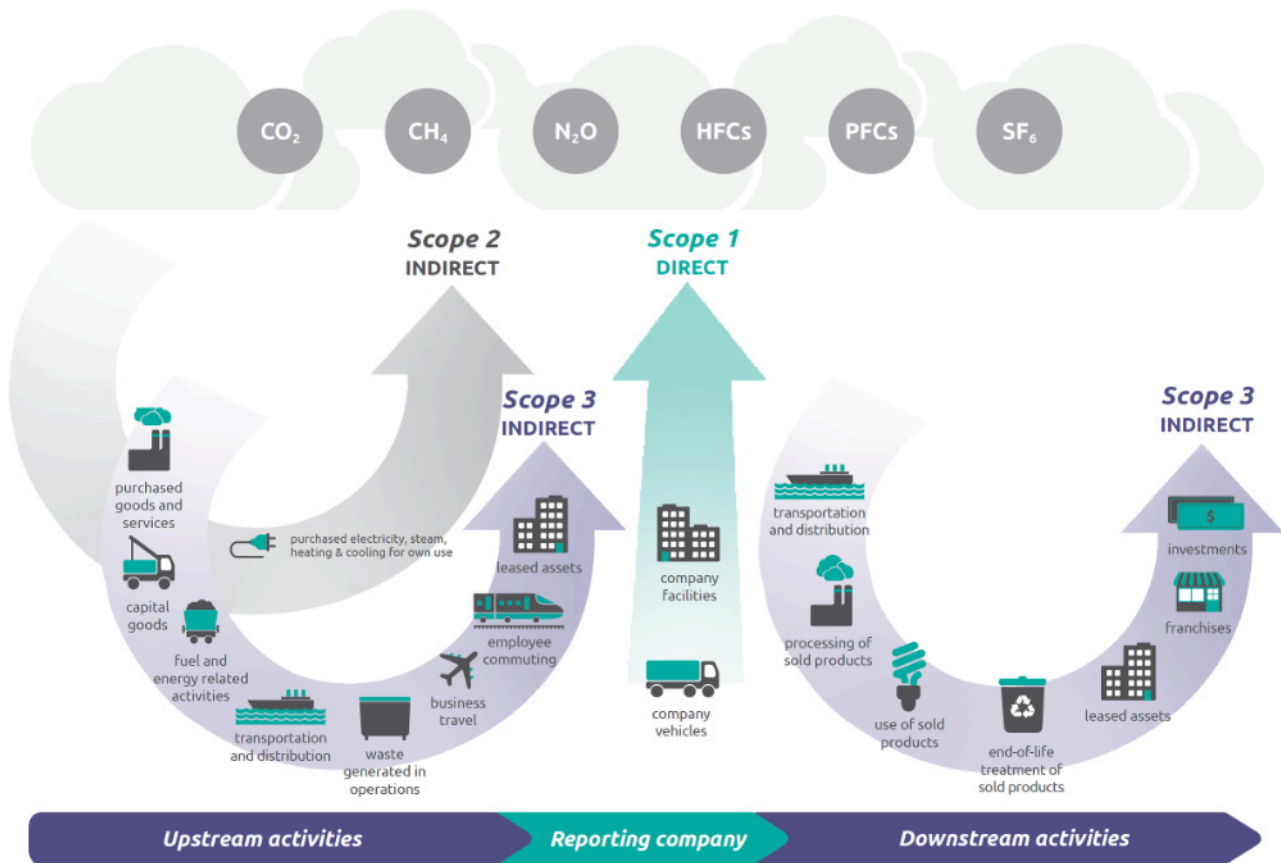
17
metric tons CO₂e
Investments
Scope 3



13
metric tons CO₂e
Vehicle Fleet
Scope 1



13
metric tons CO₂e
Landfill
Scope 3



Source: WRI/WBCSD Corporate Value Chain (Scope 3) Accounting and Reporting Standard

Why Separate Biomass?

We currently use a central wood boiler system for the majority of our campus space heating in the winter, which is why a large portion of our emissions are reported as “biomass combustion.”

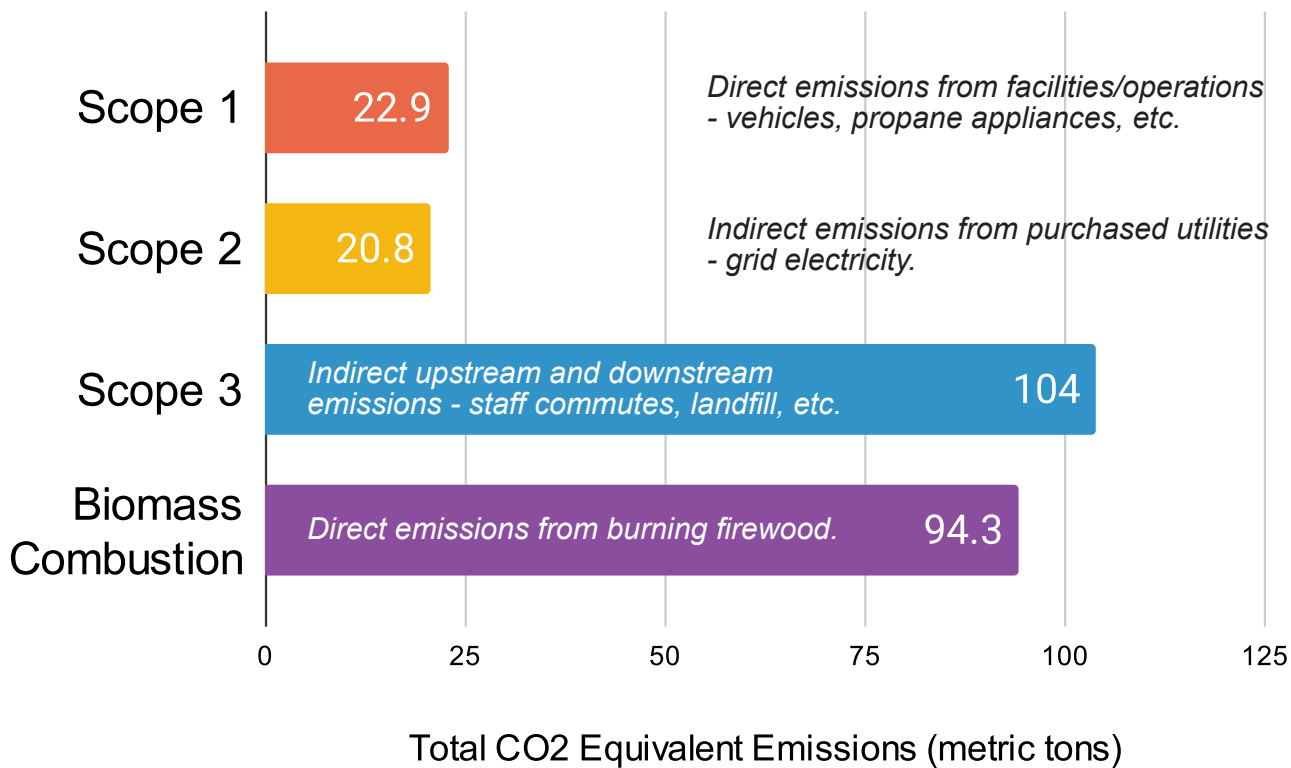
The GHG Protocol Reporting Standard requires that CO₂ emissions from biomass combustion be reported separately from the other scopes.

Wood is an affordable heating option, and is a popular primary or secondary heat source in our state. However, wood emits more CO₂ per unit of heat than coal or oil¹, due to its moisture content. While wood is a renewable resource and may be considered “carbon neutral,” it’s not climate neutral. While new

trees can grow and absorb the CO₂ emitted by trees that are cut down and burned, this relies on good forestry management, and it takes a long time for CO₂ to be recaptured.

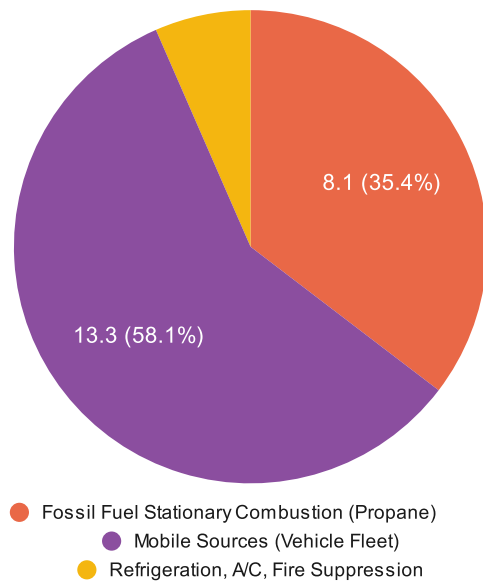
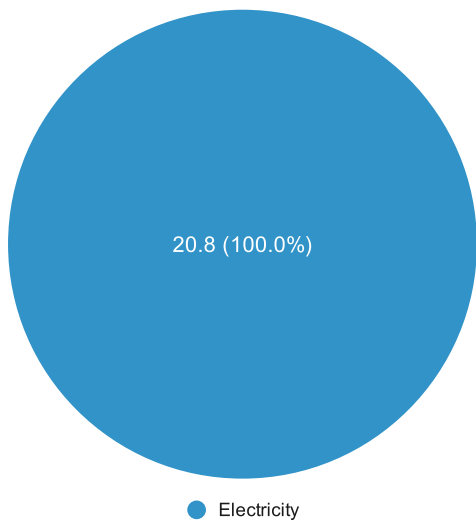
Because of this delay and the fact that CO₂ captured in the future won’t help with the effects of climate change now, data from MIT’s EnROADS climate data platform shows that increasing the use of burning wood as a heat or power source will actually increase global temperatures².

This is why we’ve made the choice to include emissions from our wood boilers in our total emissions and emissions reduction goals, and not just as an added statistic.



Scope 1 Emissions

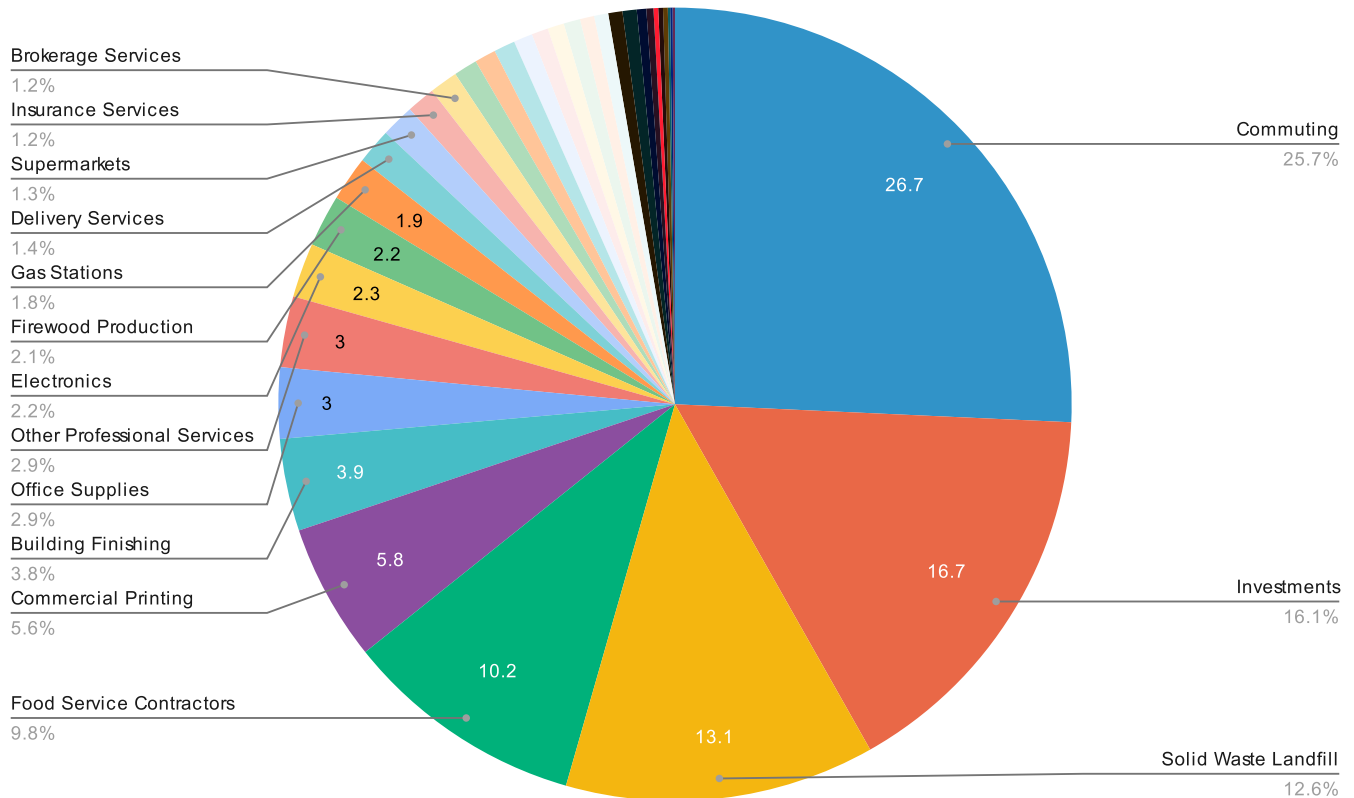
Our Scope 1 emissions are calculated using the EPA's Simplified GHG Emissions Calculator, and include direct emissions from our facilities, including propane boilers, generators and stoves on campus; fugitive emissions from refrigeration, A/C and fire suppression equipment on campus; and from our fleet of vans.



Scope 2 Emissions

Our Scope 2 emissions are calculated using the EPA's Simplified GHG Emissions Calculator, and include indirect emissions from utilities, in our case purchased electricity.

Scope 3 Emissions



1% or less: Propane Production, Landscaping, Advertising, Wood Office Furniture, Wireless Telecommunications, Hotels, Passenger Air Travel, Wired Telecommunications, Automotive Repair, Janitorial Services, Paper Mills, Equipment Maintenance, Business Travel, Professional Development, Financial Transactions Processing, Internet Publishing, Passenger Car Rental, Commercial Banking, Restaurants.

Scope 3 includes indirect emissions from our activities, not emitted directly at our facilities or from purchased utilities.

Our reporting categories for Scope 3 are Purchased Goods and Services, Waste Generated in Operations, Business Travel, Investments, and Employee Commuting.

All of our Goods and Services and Waste Generated in Operations Scope 3 emissions reporting is based on estimates using the calculation quantification method, specifically quantity of money spent per category multiplied by US Environmentally-Extended Input Output (EEIO) models. This is the least precise reporting type, and is meant as a screening tool to prioritize data gathering efforts.

Our Investments Scope 3 emissions are an estimate, calculated based on performance

data provided from our fund manager indicating fund markets, compared against similar funds with emissions data available on fossilfreefunds.org. Due to a lack of company-level data, the site is no longer updating emissions levels as of 2023.

We aim to begin gathering more accurate data in 2024 for the highest emitting categories with over 10% of our Scope 3 emissions:

- Investments
- Waste
- Food Service

The Commuting category already uses a high accuracy quantification method, via analyzing staff surveys about their commutes.

Emissions Reduction Roadmap

These projects are in various phases of planning or consideration, and are currently what we see as our best priority options for the largest emissions reductions.

Our campus buildings were already built to be highly efficient, so we can mostly skip weatherization, but this is a crucial step for older buildings.



67

metric tons CO₂e
reduction (biomass)

Campus Heating

At least 75%
electrification

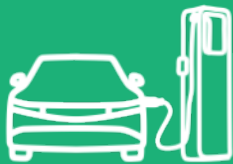


18

metric tons CO₂e
reduction (Scope 2)

Campus Solar

Replace 100% of
electric



9

metric tons CO₂e
reduction (Scope 3)

Staff Commutes

Transition to 50% EVs



5

metric tons CO₂e
reduction (Scope 1)

Vehicle Fleet

Transition to 50% EVs

We also anticipate that investment fund changes, increasing recycling and reducing waste, and substituting meat in food service can reduce emissions, but our estimates are less accurate.

Our climate projects to date

Commercial induction ranges

Installed 2024

New induction ranges in our commercial kitchen replaced our propane ranges, bringing our cooking equipment on campus to 100% electrified. The new ranges save 70% of emissions vs. propane, eliminate indoor air pollution, and are preferred by professional chefs for their improved control.

EV chargers

Installed 2019 and 2023

We are proud to continue being part of Maine's large public charging network. We installed two new public level 2 chargers in 2023, and are planning more as part of our emissions reductions in Scope 1 and 3. EVs provide many benefits, and we are encouraging our community and staff to adopt them over internal combustion vehicles as quickly as possible.

Conserved Land

Since 2004

Cobscook Institute's main Trescott and Straight Bay campuses collectively have over 60 acres of conserved forested land, and Straight Bay has 12 acres of conserved wetland habitat. Straight Bay is currently protected by a conservation easement, and we are planning formal protections for our main campus.

Commons and Heartwood Lodge

Built 2014 and 2018

Our newest buildings are designed and built to be highly efficient, with local building materials, thick insulation, solar hot water, ideal orientation to capture solar energy, insulated windows, efficient lighting, water reduction fixtures, low impact wastewater treatment, and energy recovery ventilation.

Electric mower

Put in service 2022

Our electric lawn mower significantly reduces our CO₂ emissions from lawn care, and eliminates harmful local pollution that can affect our staff and community.

Wood boilers

Installed 2014

While they're now a major source of our CO₂ emissions, our central wood boilers that heat most of our campus were an efficient option 10 years ago, and are more renewable than fossil fuel heat sources. We plan to supplement this heating system with electrification to reduce its emissions even further, as today heat pumps are the best heating option for sustainability.

Building Local and Regional Climate Resilience

Our commitment to supporting climate change response and promoting resilience doesn't stop at the boundaries of the Cobscook campus. As the late arrival of snow, and then the shocking storm damage up and down the coast this season has highlighted acutely, the impacts of the changing climate have already arrived and are accelerating, especially in our vulnerable coastal communities.

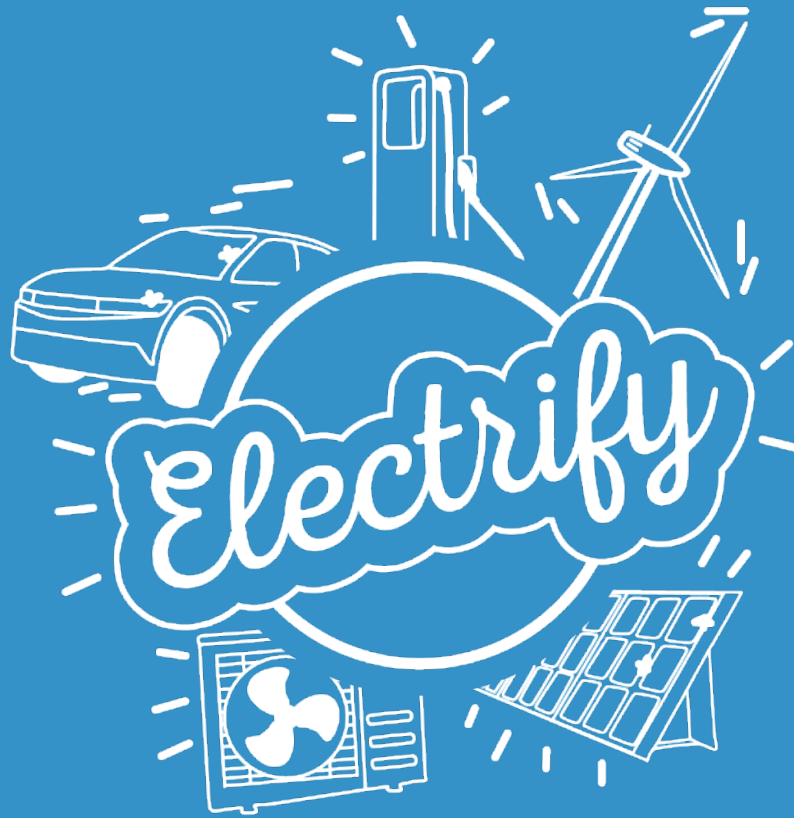
One of our strategic plan goals for the coming years is to contribute to, strengthen, and (where necessary) build the regional partnerships that will be critical for mobilizing community response on the scale needed to address these impacts, and that work is already ongoing. The Governor's Office of Policy Innovation and the Future launched the Climate Resilience Partnership in 2022 as a statewide initiative to support community-led climate action and to deliver resources to the places where they will be most needed, and one of our first goals is enrolling our home town of Trescott Township in the partnership.

While the benefits of this initiative are enormous, especially for smaller communities, with \$50,000 community action grants and systems to promote information-sharing between enrolled partners, it

assumes that the participating community is a municipal government. This leaves communities like Trescott Township, an Unorganized Territory (UT) without an established municipal government, with uncertain standing. Cobscook Institute is working with Washington County's Unorganized Territory office to establish itself as the formal representative of the more than 1,600 residents of Trescott Township—to convene community input sessions and support priority-setting for achievable climate response projects. Because Trescott Township is one of Maine's most populous Unorganized Territories (with over one-sixth of the state's total UT population), membership in the Partnership also gives us the opportunity to highlight how an important segment of our population is not adequately served by the established policy-making.

Associate Professor Sharon Klein of the University of Maine Economics Department and her research team are providing valuable technical assistance for our efforts at enrollment in the initiative, as well as building bridges between communities across our region (including Eastport and Perry) engaged in the shared work of building a coordinated and well-resourced local movement against climate change.

To learn more about the Community Resilience Partnership, visit maine.gov/future/climate/community-resilience-partnership
If you live in Trescott and want to make sure you receive an invitation to future community priority-setting sessions, send an email to Shaun at shaun@cobscookinstitute.org



Further reading and
resources available at:

cobscook.me/electrify

