

MAINE GOVERNOR'S ENERGY OFFICE
2023 ANNUAL REPORT

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GOVERNOR'S
Energy Office
www.maine.gov/energy

As required by Maine Revised Statutes Title 2, §9, 3C-1, the Governor's Energy Office (GEO) shall submit an annual report to the Energy, Utilities and Technologies Committee (EUT) that 'describes the activities of the office during the previous calendar year'. This report covers the requirements for calendar year 2023.

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INTRODUCTION

The Governor's Energy Office (GEO), established within the Executive Department and directly responsible to the Governor, is tasked with myriad activities relating to state energy policies, planning and development. As the lead energy office for the state, GEO works on a wide range of energy issues and is responsible for several activities such as providing policy leadership and technical assistance, developing and implementing energy programs, monitoring energy markets, and reporting on heating fuel and energy prices. GEO works in partnership with various state agencies, Federal and local officials, industry, nonprofits, and academia on energy issues.

In 2023, the ongoing conflict between Russia and Ukraine continued to impact global energy markets and Maine's energy prices. At the same time, the Federal government made progress beginning to roll out significant clean energy and climate programs and tax credits resulting from the Inflation Reduction Act (IRA) and the Bipartisan Infrastructure Law (BIL). With these challenges and opportunities, 2023 was a year of significant activity for GEO. Throughout the year, the office continued to advance several energy initiatives to support the delivery of affordable, reliable, and clean energy to Maine people and businesses. This work included supporting the passage and implementation of the Governor's Winter Energy Relief Plan,¹ passed with bipartisan support from the Legislature, as well as engagement on many other energy and climate-related bills.

In 2023, GEO published several detailed technical reports on distributed generation, rural energy monitoring, energy use data standards, offshore wind, and tax incentives for energy storage. In addition, GEO launched new programs and provided grants to entities; applied for and secured millions in federal funding; led and participated in a variety of stakeholder-driven initiatives; conducted energy security planning; and informed Maine energy consumers of energy prices and available resources. The Director of GEO also served on the Board of Efficiency Maine Trust (Efficiency Maine) per statute, as well as the Board of the National Association of State Energy Officials (NASEO), in addition to other boards and advisory groups.

GEO's work supported several major milestones that Maine achieved in 2023 including but not limited to:

- **Record-setting adoption of heat pump technology.** In 2023, Maine exceeded its goal of installing 100,000 heat pumps two years ahead of schedule, and Governor Mills announced a new goal of installing an additional 175,000 by 2027.
- **Setting aggressive clean energy targets.** Governor Mills set a target for 100 percent clean energy by 2040 and GEO launched the energy planning necessary to achieve this.
- **Advancing responsible offshore wind in the Gulf of Maine.** GEO led and published the Maine Offshore Wind Roadmap, led the Maine Offshore Wind Research Consortium, and is now statutorily responsible for developing procurements for 3,000 MW of offshore wind.

¹ (2023, January 4). *Governor Mills Signs Emergency Winter Energy Relief Plan, Delivering Direct Heating Relief to Maine People.* State of Maine Office of Governor Janet T. Mills. Retrieved January 5, 2024 from <https://www.maine.gov/governor/mills/news/governor-mills-signs-emergency-winter-energy-relief-plan-delivering-direct-heating-relief>

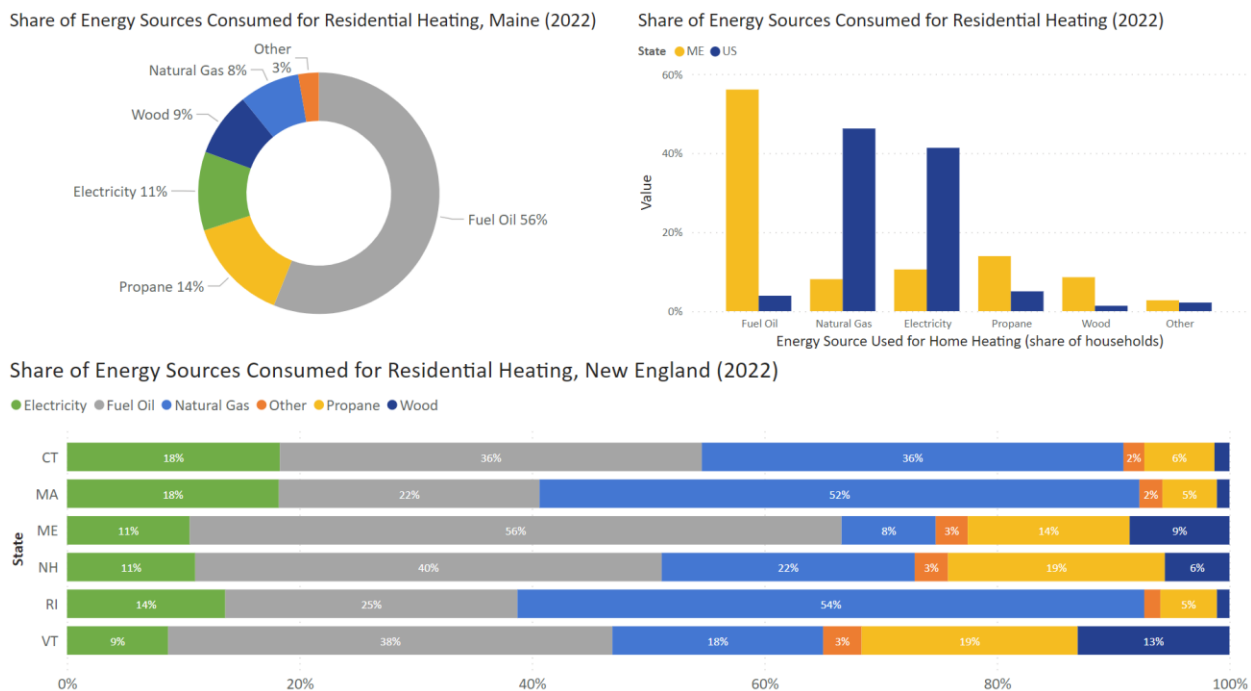
- **Supporting workforce and innovation in Maine's clean energy economy.** GEO delivered nearly \$2 million in Maine Jobs and Recovery Plan funds to support workforce development and cleantech innovation through the Clean Energy Partnership and secured an additional \$2.75 million to be administered through the U.S. Department of Labor to support the program.
- **Applying for millions in federal energy funding for Maine.** GEO applied and supported applications for more than \$100 million in federal funding for Maine that would support grid resilience, energy efficiency, distributed generation and storage, transmission, workforce development, and investments in rural and disadvantaged communities across Maine.

This report further summarizes key updates and areas of focus for GEO during 2023, including heating and efficiency, renewable energy, offshore wind, workforce and innovation, federal funding, legislation, and more. All completed reports as well as current information on GEO's initiatives and additional energy resources can be accessed on the GEO website: www.maine.gov/energy.

HEATING & EFFICIENCY RESOURCES FOR CONSUMERS

Maine has long been a national outlier for reliance on home heating oil, and is currently the most heating oil dependent state in the nation² with more than 56 percent of households using fuel oil for their primary home heating source compared to 4 percent nationally.³ Maine’s over-reliance on imported fossil fuels for home heating results in significant greenhouse gas emissions that contribute to climate change and public health concerns and leaves Maine people susceptible to recent price escalations resulting from global market volatility. According to a GEO analysis in 2023 of U.S. Census Bureau information, Maine saw a 10 percent decline in heating oil as a primary home heating fuel from 2018 to 2022, coupled with an increase in households utilizing electricity during that time – a direct result of record adoption of high efficiency air source heat pumps in Maine.

Figure: Primary fuel used for residential heating, Maine, US, and New England (2022). Source: U.S. Census Bureau³



As a region, New England relies heavily on natural gas for electricity generation with nearly 53 percent of electricity being generated from natural gas.⁴ Due to a combination of factors, including high petroleum consumption and relatively limited natural gas distribution capacity, Maine consumes

² (2022). *State Energy Data System (SEDS)*. U.S. Energy Information Agency. Retrieved December 13, 2023, from <https://www.eia.gov/state/seds/>

³ (2023, October 19). *American Community Survey (ACS)*. United States Census Bureau. Retrieved December 13, 2023, from <https://www.census.gov/programs-surveys/acs>

⁴ (2023, September 28). *Historical Site Data*. U.S. Energy Information Administration. Retrieved December 13, 2023, from <https://www.eia.gov/electricity/data/state/>

a much smaller percentage of natural gas than its neighbors. However, due to a regional dependence on natural gas for electricity generation, natural gas prices are inherently tied to Maine’s electricity costs. GEO, in coordination with other state agencies, keeps Maine consumers up to date with heating fuel prices, energy assistance and efficiency programs, and ongoing efforts to reduce Maine’s reliance on fossil fuels. Key deliverables related to this work include but are not limited to weekly delivered heating fuel prices across Maine; tracking of oil dependence reduction target metrics; and dissemination of energy efficiency opportunities.

HEATING FUEL PRICE SURVEY AND WINTER HEATING RESOURCES

Throughout 2023, GEO conducted a weekly heating fuel price survey. This survey collects data from fuel retailers statewide on average cash prices for heating oil and kerosene as well as credit prices for propane. Prices through January 2, 2024 are provided in the chart below and are also published on the GEO website in an interactive dashboard format.⁵ The figure below reflects the unprecedented volatility in heating oil and kerosene prices throughout 2022, and subsequent price declines in 2023.

Figure: Average cash prices for heating oil, kerosene, and propane (2012 – 2023).



Historical heating fuel prices from 2012 through 2023. Source: Governor’s Energy Office Heating Fuel Prices.

While heating fuel prices are lower now than during the 2022-23 heating season, prices generally remain higher than they were prior to 2022. As in prior years, GEO published the 2023 Winter Heating Guide⁶, which includes tips, resources, and programs to help Maine people save money, improve their home’s energy efficiency, and apply for heating assistance. The winter heating season extends from October through March. In late 2022, Governor Mills proposed an Emergency Energy

⁵ (2023, December 4). *Heating Fuel Prices*. Governor’s Energy Office. Retrieved December 13, 2023, from <https://www.maine.gov/energy/heating-fuel-prices>.

⁶ (2023). *Winter Heating Guide*. State of Maine Governor’s Energy Office. Retrieved December 15, 2023 from <https://www.maine.gov/energy/winter-heating-resources>

Relief Plan, the product of negotiations with the Legislature, to provide \$450 relief checks to most Maine people to help them deal with the burden of increased energy costs. The Plan also supplemented home heating assistance for low-income consumers, provided additional emergency fuel assistance to prevent people and families from running out of heating fuel, and other measures. Governor Mills signed this bipartisan legislation into law in January 2023.⁷

ENERGY EFFICIENCY

GEO works closely with Efficiency Maine and the Maine State Housing Authority (MaineHousing) to ensure coordinated efforts for the deployment of energy efficient technologies in an equitable, economical, and efficient manner. The Efficiency Maine Trust Act of 2019⁸ put in place a goal of the installation of 100,000 new heat pumps by 2025 with at least 15,000 heat pumps going to income-eligible households. In July 2023, Maine surpassed the goal of installing 100,000 new heat pumps two years ahead of schedule and Governor Mills announced a new target of installation of an additional 175,000 new heat pumps by 2027. This, in combination with the previous goal, would bring the number of heat pumps installed in Maine homes, businesses, and public buildings to 275,000 during the Mills Administration. If this target is achieved, Maine would have more than 320,000 heat pumps installed across the State. Maine also continues to be a national leader in the adoption of heat pump water heaters. Efficiency Maine reports that over 9,500 heat pump water heaters were installed in fiscal year 2023 for a total of over 50,000 heat pump water heaters installed since 2018.

Pursuant to the Efficiency Maine Trust Act as amended in 2021⁹, Maine seeks to double the pace of home weatherization, achieving the weatherization of 17,500 additional homes and businesses by 2025 and 35,000 by 2030, including 1,000 low-income residential units per year. In 2023, over 3,500 homes were weatherized through the combined efforts of Efficiency Maine and MaineHousing for a total of over 12,000 since 2019. Governor Mills and the Maine Legislature have allocated \$25 million from the Maine Jobs and Recovery Plan to Efficiency Maine for home weatherization specifically targeting low- to moderate-income dwellings in the State. As of mid-2023, Efficiency Maine has invested over 25 percent of those funds (\$6.3M) in 870 dwellings for weatherization improvements. Of the 870 dwellings, over 68 percent (596) were in economically disadvantaged communities. These investments have a lifetime cost savings of \$4.4M and will save over 27,000 tons of carbon dioxide equivalent (CO₂e).

GEO continues to closely monitor adoption of the Maine Uniform Building and Energy Code (MUBEC) by the Technical Building Codes and Standards Board. MUBEC is the statewide building and energy code that is comprised of codes from the International Code Council (ICC) and the American Society of Heating, Refrigerating and Air-Conditioning Engineers. The 2021 edition of the

⁷ (2023, January 4). *Governor Mills Signs Emergency Winter Energy Relief Plan, Delivering Direct Heating Relief to Maine People*. State of Maine Office of Governor Janet T. Mills. Retrieved January 11, 2024 from <https://www.maine.gov/governor/mills/news/governor-mills-signs-emergency-winter-energy-relief-plan-delivering-direct-heating-relief>

⁸ Efficiency Maine Trust Act, 35-A MRSA § 10119 (2019). <https://www.mainelegislature.org/legis/statutes/35-a/title35-Asec10119.html>

⁹ Efficiency Maine Trust Act, 35-A MRSA § 10104 (2021). <https://www.mainelegislature.org/legis/statutes/35-a/title35-Asec10104.html>

MUBEC is currently being reviewed by the Technical Building Codes and Standards Board for rulemaking and adoption. This process is expected to be completed early- to mid-2024. The Office of the State Fire Marshal is currently training building officials on the newer edition of the codes to prepare them for the transition.

Additional 2023 energy efficiency-related federal funding updates, including rebates and training, are included in later sections of this report.

BENEFICIAL ELECTRIFICATION

In June 2023, Governor Mills signed L.D. 1724¹⁰ into law. This law refines the definition of beneficial electrification to include switching end-uses and processes from fossil fuel to electric to reduce emissions and benefit utility ratepayers. As a result, Efficiency Maine is now required to include beneficial electrification planning in its triennial plan and updates. In addition, the Maine Public Utilities Commission (PUC) is required to include such measures into the calculation of electric maximum achievable cost-effective savings, and to fund Efficiency Maine budgets for delivering these savings through electric utility procurement under 35-A M.R.S. §10110 sub-§4-A¹¹. GEO will provide a summary of these activities in future annual reports as required by 35-A M.R.S. §3805 sub-§2¹².

RENEWABLE ENERGY: OVERVIEW & POLICY UPDATES

RENEWABLE PORTFOLIO STANDARD

Maine's Renewable Portfolio Standard (RPS) establishes the portion of electricity used in the State that must be sourced from renewable sources. As established by L.D. 1494, Maine's RPS increases by a certain number of percentage points each year, from 51 percent of electricity required to be renewable in 2023 to 80 percent in 2030.¹³ Permissible classes of renewable resources to meet this requirement are established by law and include solar; wind; biomass including wood, wood waste, and landfill gas; hydroelectric generators that meet certain fish passage requirements; tidal; anaerobic digestion; fuel cells; geothermal; and municipal solid waste. Compliance is monitored by the PUC, which publishes an annual report summarizing RPS results. In February 2023, Governor Mills announced an accelerated goal of 100 percent clean electricity by 2040, stating:

¹⁰ An Act to Enact the Beneficial Electrification Policy Act. P.L. 2023, Chapter 328 (L.D. 1724), 131st Maine Legislature (2023).

<https://legislature.maine.gov/legis/bills/getPDF.asp?paper=SP0688&item=3&snum=131#:~:text=The%20commission%20shall%20advance%20through,climate%20benefits%20for%20all%20ratepayers>

¹¹ Efficiency Maine Trust Act, 35-A M.R.S. § 10110 (2019). <https://www.mainelegislature.org/legis/statutes/35-A/title35-Asec10110.html>

¹² Efficiency Maine Trust Act, 35-A M.R.S. § 3805 (2019). <https://www.mainelegislature.org/legis/statutes/35-A/title35-Asec3805.html>

¹³ An Act To Reform Maine's Renewable Portfolio Standard. L.D. 1494, 129th Maine Legislature (2019). <https://legislature.maine.gov/bills/getPDF.asp?paper=SP0457&item=3&snum=129>

The time has come to be bolder: I am announcing tonight that I am directing my Energy Office to draft legislation requiring that 100 percent of our electricity come from clean energy by 2040. By accelerating our pace toward 100 percent clean energy, we will reduce costs for Maine people, create new jobs and career opportunities that strengthen our economy, and protect us from the ravages of climate change¹⁴.

To achieve this directive, GEO launched the Maine Energy Plan: Pathway to 2040¹⁵ initiative in August 2023. Through this initiative, GEO has engaged the public and key stakeholders on actionable and affordable strategies to meet the goal of 100 percent clean energy by 2040, including stabilizing electricity rates, reducing emissions, and supporting jobs and economic investment. GEO retained The Brattle Group and Evolved Energy Research to conduct modeling and technical analyses to inform the planning process. Between August and December 2023, GEO hosted three public webinars to present methods and draft results and obtain feedback from stakeholders. The final Pathway to 2040 report is anticipated in early 2024 as a part of Maine's Comprehensive Energy Plan.

In addition to increasing Maine's RPS, L.D. 1494 also directed the PUC to procure 14 percent of Maine's electricity load via long-term contracts. The legislation directed the PUC to review the bids through a weighted cost-benefit analysis scheme, with 70 percent consideration to ratepayer benefits or overall cost and 30 percent consideration toward the economic benefits that the project would provide the State and host community. The PUC held its first round of procurements in September 2020, which resulted in a commitment of 546 megawatts (MW) of procured capacity generated by solar, wind, biomass, and hydro across 17 new and existing facilities. A second round of procurements was issued in January 2021, which resulted in an additional seven project approvals for long-term contracts, including six new solar projects and one existing wind project for a total of 422 MW of committed capacity. In July 2022, the PUC approved a suite of changes, directly attributable to these contracts, resulting in a 5.5 percent decrease in electricity delivery rates for CMP residential customers, and between 3.5 - 3.8 percent decrease for Versant residential customers. In 2022 and 2023, a substantial share of the contracted capacity from new projects appeared to be at risk, with one project developer petitioning for a contract modification and multiple projects canceling their contracts due to a variety of factors including macroeconomic conditions, supply chain constraints, permitting and interconnection setbacks, and other potential issues. GEO continues to work collaboratively with the PUC, project developers, and other stakeholders to monitor progress and consider pathways forward for adding new resources in line with these statutory targets.

¹⁴ (2023, February 14). *Governor Mills: Maine Stands on Solid Fiscal Footing, State of the Budget is Strong*. State of Maine Office of Governor Janet T. Mills. Retrieved December 15, 2023 from <https://www.maine.gov/governor/mills/news/governor-mills-maine-stands-solid-fiscal-footing-state-budget-strong-2023-02-14>

¹⁵ (n.d.). *Maine Energy Plan: Pathway to 2040*. State of Maine Governor's Energy Office. Retrieved January 10, 2024 from <https://www.maine.gov/energy/studies-reports-working-groups/current-studies-working-groups/energyplan2040>

Following legislation signed by Governor Mills that established the Northern Maine Renewable Energy Development Program¹⁶, the PUC selected a new 1,000 MW onshore wind project – the King Pine Wind project developed by Longroad Energy – and associated transmission project – the Aroostook Renewable Gateway developed by LS Power Grid Maine, LLC – to deliver new clean energy from northern Maine into the ISO New England system. GEO monitored these developments and engaged in conversations with Massachusetts following legislation which authorized Massachusetts to partner with other New England states to contract for clean energy projects, which would bring low-cost clean energy and hundreds of jobs to Maine. In December 2022, Massachusetts decided to pay up to 40 percent of the project and move forward with contracting. According to this public finding by the Massachusetts Department of Energy Resources, the wind farm and associated transmission project is expected to provide power to thousands of homes while lowering energy costs for the region. With the participation of Massachusetts, the PUC determined that the projects would be in the public interest and approved term sheets with both developers. During 2023, PUC staff as well as parties from Massachusetts and Maine's T&D utilities undertook negotiations with both developers to produce final contracts. GEO was not a party to these negotiations. In December 2023, the PUC terminated the Aroostook Renewable Gateway project, finding that LS Power was unable to adhere to the original approved pricing terms. In deliberations, the PUC indicated they would exercise existing authority to re-open the Northern Maine Renewable Energy Development Program procurement process. GEO will continue to monitor development of this Program and work to engage as appropriate to ensure the renewable energy objectives of the State are achieved to the benefit of Maine ratepayers.

TRANSMISSION

In 2023, GEO continued to participate in regional and national transmission planning initiatives, including a transmission request for information (RFI) with several other New England States and review of federal transmission study assumptions and inputs. Maine released a joint RFI in collaboration with Connecticut, Massachusetts, New Hampshire, and Rhode Island to solicit public comment on upgrades to the regional electric transmission system required to integrate renewable energy resources. Additionally, participating states sought feedback on a multistate Modular Offshore Wind Integration Plan and best means to obtain federal funding through the Bipartisan Infrastructure Law (BIL).

GEO also provided feedback on a U.S. Department of Energy (DOE) National Transmission Planning (NTP) Study. DOE is conducting the NTP study in support of the Building a Better Grid Initiative under the BIL. The NTP study seeks to identify transmission that will provide broad-scale benefits to electric customers; inform regional and interregional transmission planning processes; and identify strategies to accelerate decarbonization while maintaining system reliability.¹⁷ Study results are anticipated to help DOE prioritize funding for transmission infrastructure support.

¹⁶ Northern Maine Renewable Energy Development Program, 35-A M.R.S.A. § 3210-I (2021). <https://www.mainelegislature.org/legis/statutes/35-a/title35-Assec3210-I.html>

¹⁷ (n.d.) *National Transmission Planning Study*. U.S. Department of Energy Grid Deployment Office. Retrieved December 27, 2023 from <https://www.energy.gov/gdo/national-transmission-planning-study>

GRID PLANNING

One of the recommendations in the *Maine Won't Wait* Climate Action Plan is to launch a stakeholder process to transform Maine's electric power sector. Modernization of current electric grid systems and infrastructure will be necessary to meet State renewable energy and climate goals through flexible demand management, integrated grid planning, utility structures, and beneficial electrification. The beneficial electrification of heating and transportation will require coordinated and timely preparation in anticipation of necessary grid upgrades and system changes.

In 2022, the Legislature passed and the Governor signed L.D. 1959¹⁸, an Act Regarding Utility Accountability and Grid Planning for Maine's Clean Energy Future. As directed in the Act, the PUC launched the Integrated Grid Planning (IGP) process, established in Maine statute¹⁹, which will take place every 5 years and seeks to identify stakeholder priorities, assumptions, methods, goals, and tools that transmission and distribution utilities must include in their grid plans.

In 2023, the stakeholder group had three workshops and established three technical working groups. In November 2023, the PUC requested additional comments on a proposed structure for grid plan filings; environmental, equity, and environmental justice impacts; forecasting and scenario planning; hosting capacity maps; and solutions evaluation. GEO provided comments identifying priorities for this IGP across those topic areas, including strategies for increasing transparency across the process and methods to ensure that this first IGP sets up subsequent IGPs for success. GEO continues to actively participate and engage with stakeholders in this process, in addition to supporting power sector transformation through several other regulatory proceedings discussed in the Engagement with the Public Utilities Commission section below.

In December 2023, as directed by the Grid Planning Act, the utilities submitted Climate change protection plans. GEO will review the submitted plans and will continue to coordinate with the PUC and stakeholders on grid planning efforts, including climate resiliency.

Additionally, GEO monitored Docket Nos. 2022-00279²⁰ and 2022-00052²¹, which adopt amendments to Chapter 320 on electric utility service standards, including bill error and call abandonment rates. In addition to initiating a new process for integrated grid planning, L.D. 1959 also requires the PUC to adopt metrics for electric utilities pertaining to service quality, customer service, field services, and distributed energy resource interconnection.

¹⁸ An Act Regarding Utility Accountability and Grid Planning for Maine's Clean Energy Future. P.L. 2022, Chapter 702 (L.D. 1959), 130th Maine Legislature.

<https://legislature.maine.gov/legis/bills/getPDF.asp?paper=SP0697&item=19&num=130>

¹⁹ Safe Facilities; Just and Reasonable Rates. 35-A MRSA §301, sub-§1-A (2022).

<https://legislature.maine.gov/statutes/35-A/title35-Asec301.html>

²⁰ Commission Initiated Investigation into Utility Service Quality Standards Pertaining to Central Maine Power and Versant Power. Office of the Maine Public Utilities Commission, docket 2022-00279. <https://mpuc-cms.maine.gov/CQM.Public.WebUI/Common/CaseMaster.aspx>

²¹ Commission Initiated Rulemaking Amendments to Electric Transmission and Distribution Utility Service Standards Chapter 320. Office of the Maine Public Utilities Commission, docket 2022-00052. <https://mpuc-cms.maine.gov/CQM.Public.WebUI/Common/CaseMaster.aspx>

DISTRIBUTED GENERATION STAKEHOLDER GROUP

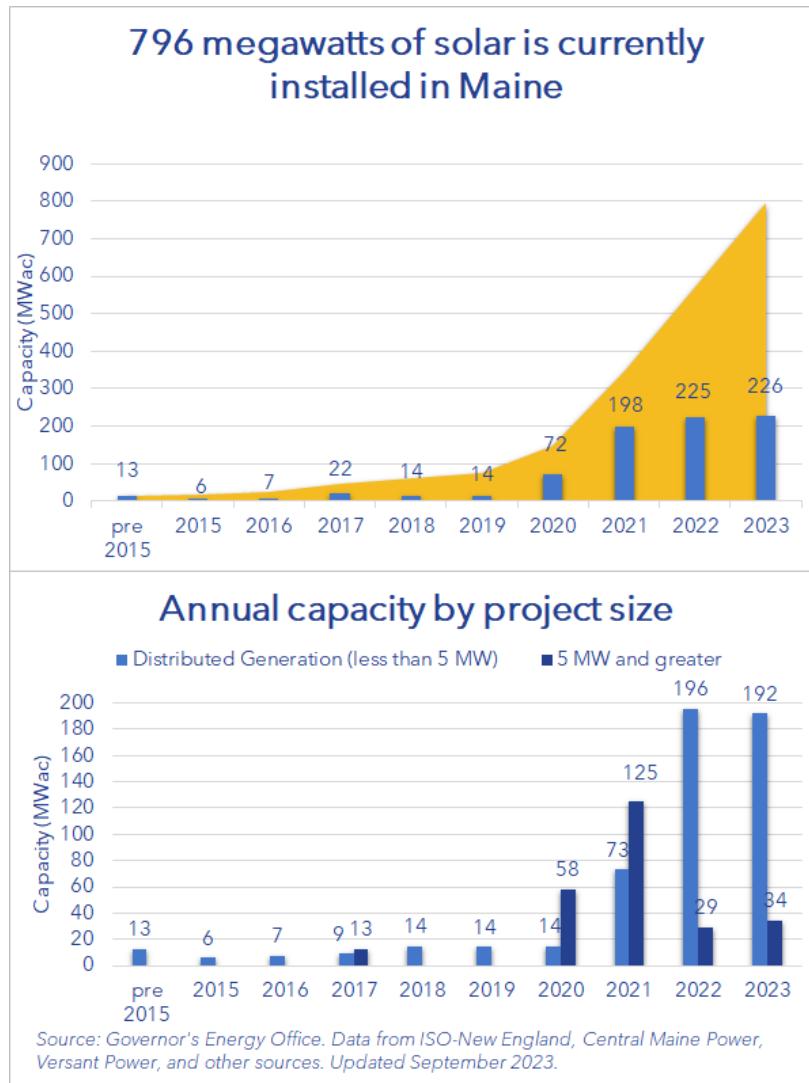
In 2019, Maine law changed to encourage the development of renewable energy through distributed generation. Distributed generation resources are defined by statute as an electric generating facility with a nameplate capacity of less than 5 MW that uses a renewable fuel or technology and is in the service territory of a transmission and distribution utility in the State²². At present, the primary mechanisms for developing distributed generation resources are two net energy billing (NEB) programs: kilowatt-hour credit and C&I tariff. In 2021, L.D. 936 was signed into law²³ and established a goal of 750 MW of distributed generation under the net energy billing programs. The bill also set a limit on distributed generation resources between 2 and 5 MW eligible for enrollment in net energy billing and concludes the program for these resources on December 31, 2024. In addition, the law established a stakeholder group to “consider various distributed generation project programs to be implemented between 2024 and 2028 and the need for improved grid planning.”

Pursuant to L.D. 936, GEO convened the Distributed Generation Stakeholder Group to issue recommendations that support continued development of renewable energy in Maine through cost-effective distributed generation. To support the work of the Stakeholder Group in developing a successor program, GEO retained Synapse Energy Economics and Sustainable Energy Advantage. Public comments were obtained through the 11 meetings and issue-specific work sessions to inform the group's interim and final reports. The group delivered a final report²⁴ to the Legislature on January 6, 2023. GEO proposed a comprehensive suite of programs designed to equitably accelerate the deployment of distributed solar and energy storage to benefit low-income and disadvantaged Maine communities in an application to the U.S. EPA's Solar for All program. Additional details about this pending application are described in the Federal Funding section of this report.

²² Distributed Generation. 35-A MRSA §3481(5) (2019). <https://www.mainelegislature.org/legis/statutes/35-a/title35-Asec3481.html>

²³ Electric Industry Restructuring. 35-A MRSA § 3209-A (2021). <https://www.mainelegislature.org/legis/statutes/35-a/title35-Asec3209-A.html>

²⁴ (2023, January 6). *Final Report of the Distributed Generation Stakeholder Group*. State of Maine Governor's Energy Office. Retrieved December 15, 2023 from https://www.maine.gov/energy/sites/maine.gov.energy/files/inline-files/Final%20Report%20of%20the%20DG%20Stakeholder%20Group_with%20appendix.pdf



As of September 2023, 796 MW of solar has been installed in Maine, comprised of 537 MW of distributed solar (less than 5 MW) and 259 MW of utility scale solar (5 MW and greater).

ENERGY STORAGE

As a result of bipartisan legislation²⁵, Maine has established energy storage goals of at least 300 MW of installed capacity within the State by the end of 2025 and at least 400 MW by the close of 2030. These targets established Maine as the ninth U.S. state with codified energy storage targets, which are some of the most ambitious in the country given the relative size of the state’s electricity load. 400 MW represent nearly 20 percent of Maine’s peak demand as of 2021. This legislation also directed GEO to complete an assessment of the state’s energy storage market. The assessment showed energy storage is a vital component of meeting the state’s climate and clean energy targets,

²⁵ Electric Industry Restructuring. 35-A MRSA §3209-A, sub-§7 (2021). <https://www.mainelegislature.org/legis/statutes/35-a/title35-Asec3209-A.html>

particularly as Maine increases its use of renewable energy generation and electrifies transportation and buildings to support its decarbonization goals²⁶.

In 2023, there were approximately 65 MW of grid-connected energy storage resources operating in the State or anticipated to come online by the end of the year. Additionally, hundreds of megawatts of battery storage projects have been proposed for construction in the state and are currently in the ISO-NE Interconnection Queue. The Market Assessment highlights the benefits and opportunities of investments in energy storage but also recognizes that several barriers exist to storage deployment today, including supply chain constraints and material price increases; uncertainty over interconnection timelines and costs; challenges in identifying the best sites for locating storage to maximize system benefits; downward pressure on capacity markets; and general uncertainty regarding access to certain revenue streams as energy storage markets evolve rapidly.

Maine Energy Storage Snapshot

GOAL: At least **300 MW** of installed capacity by the end of 2025 and **400 MW** by the end of 2030.

Currently: Maine has approximately **65 MW** of grid-connected energy storage.

235 MW of new and existing energy storage projects in Maine cleared the 17th Forward Capacity Auction and have committed to supplying capacity and demand-reduction services to the grid in 2026/2027.

The market for energy storage is growing rapidly in New England. As of January 2023, **11,000 MW** or **35 percent** of newly proposed resources in the region are battery storage systems.

On June 30, 2023, Governor Mills signed L.D. 1850²⁷ into law. This legislation builds upon the state's existing energy storage goals by declaring Maine's intention to invest in energy storage infrastructure to increase grid reliability and support the integration of new renewable resources to meet the state's climate and clean energy goals in a cost-effective manner.

Specifically, L.D. 1850:

- Modifies the state goal for energy storage system development to at least 300 MW of installed capacity by the end of 2025 and at least 400 MW by the end of 2030;
- Allows GEO to reevaluate and increase the state energy storage goal as needed;
- Directs GEO to evaluate designs for a program to procure up to 200 MW of commercially available utility-scale energy storage that provides net benefits to the electric grid and to ratepayers;

²⁶ (2022, March). *Maine Energy Storage Market Assessment*. State of Maine Governor's Energy Office. Retrieved January 10, 2024 from https://www.maine.gov/energy/sites/maine.gov.energy/files/inline-files/GEO_State%20of%20Maine%20Energy%20Storage%20Market%20Assessment_March%202022.pdf

²⁷ An Act Relating to Energy Storage and the State's Energy Goals. P.L. 2023, Chapter 374 (L.D. 1850), 131st Maine Legislature (2023). <https://legislature.maine.gov/legis/bills/getPDF.asp?paper=SP0751&item=7&snum=131>

- Directs GEO to study long-duration energy storage, including opportunities for new and emerging long duration energy storage technologies; and
- Requires the PUC to solicit stakeholder input on whether and, if so, at what cost and under what conditions, an investor-owned transmission and distribution utility may own, have a financial interest in or otherwise control an energy storage system in Maine.

In November 2023, GEO issued a Request for Information (RFI) seeking public input to inform its implementation of Section 2 of this law, to evaluate and recommend designs for a program to procure up to 200 MW of commercially available utility-scale energy storage systems connected to the state's transmission and distribution systems. GEO's RFI received 18 responses from stakeholders. In 2024, GEO will use this input to inform the evaluation required by law and provide its recommendations to the PUC. The PUC will then review the recommendations and determine whether the program recommended by GEO is reasonably likely to achieve the objectives established by law by the end of 2024.

MAINE OFFSHORE WIND INITIATIVE

Through the Maine Offshore Wind Initiative (Initiative), GEO is working to develop a sustainable and responsible offshore wind industry through strategic planning, research, and coordination with state agencies and groups from Maine, the nation, and the world. In 2019, Governor Mills launched the Initiative to identify ways Maine can benefit from the industry which is expected to generate more than \$109 billion in private investment in the U.S. economy by 2030.²⁸ Additionally, the Initiative was created to explore opportunities for thoughtful development of offshore wind in the Gulf of Maine to create jobs and generate clean energy while preserving and protecting Maine's maritime industries and marine ecosystems.

The global offshore wind industry is expected to reach a market value of \$1 trillion by 2040.²⁹ Meanwhile, Maine's Initiative is positioning the state to be a leader on domestic offshore wind development. The Initiative's 2023 efforts included analyzing required port infrastructure and supply chains, developing a robust workforce, conducting vigorous environmental monitoring, and stakeholder engagement.

MAINE OFFSHORE WIND ROADMAP

In February 2023, GEO published the Maine Offshore Wind Roadmap (Roadmap). The Roadmap is an economic development plan for offshore wind in Maine. Building upon the state's record of planning, research and development, and innovation, the Roadmap was an 18-month, stakeholder-led initiative facilitated by GEO and supported by a \$2.166 million grant from the U.S. Economic Development Administration (EDA). The objective of the Roadmap was to identify ways to foster a

²⁸ (2021, October). *Supply Chain Contracting Forecast for U.S. Offshore Wind Power*. Special Initiative on Offshore Wind. Retrieved January 2, 2024 from <https://cpb-us-w2.wpmucdn.com/sites.udel.edu/dist/e/10028/files/2021/10/SIOW-supply-chain-report-2021-update-FINAL-1.pdf>

²⁹ (2019, November). *Offshore Wind Outlook*. International Energy Agency. Retrieved January 2, 2024 from <https://www.ica.org/reports/offshore-wind-outlook-2019>

responsible offshore wind industry that works for Maine's people, economy, and heritage. Key topics covered by the Roadmap include energy markets, ports and infrastructure, socioeconomic impacts, equity, manufacturing and supply chains, workforce development, and ocean and environmental compatibility. The Roadmap offers a path forward for offshore wind in Maine that embraces the opportunity while ensuring compatibility with Maine's coastal heritage and minimal impacts to fisheries and the environment. All information about the Roadmap can be accessed via the Maine Offshore Wind Initiative website³⁰.

In July, Governor Mills signed L.D. 1895 into law³¹, which authorizes GEO to lead the procurement of up to 3,000 MW of offshore wind energy by 2040, allowing for critical port development, creating opportunity for all Maine workers and businesses in the emerging industry, and protecting critical lobster fishing areas from development. State procurement laws create an important market for the U.S. offshore wind industry and are essential drivers of development. Maine's offshore wind procurement law is a key milestone for the Maine Offshore Wind Roadmap, critical to securing the climate, clean energy, and economic benefits of offshore wind for Maine.

Throughout 2023, GEO worked with partners to implement action items outlined in the Roadmap. Currently, GEO is coordinating with other states in the region on supply chain development, transmission, and research to inform responsible floating offshore wind development. GEO is advancing the Roadmap recommendations through comments and other input to the Bureau of Ocean Energy Management's (BOEM) offshore wind planning process in the Gulf of Maine. In addition, GEO is pursuing federal funding to implement the action items outlined in the Roadmap with public and private sector partners.

MAINE OFFSHORE WIND RESEARCH CONSORTIUM

In 2021, Governor Mills signed L.D. 1619³² into law, establishing the Maine Offshore Wind Research Consortium to coordinate, support, and arrange for research to be conducted on floating offshore wind in the Gulf of Maine. The Consortium is an integral component of the Roadmap's strategies and actions and is essential to its implementation.

The Consortium is led by an Advisory Board which includes commercial and recreational fishing representatives, research scientists, coastal community leaders, Maine-based environmental groups, marine wildlife researchers, offshore wind industry experts, and state agencies. Over the course of 2023, the Advisory Board spent time learning about offshore wind research efforts from collaborators, completed a research topic prioritization exercise, developed a Research Strategy, and published its first Request for Proposals (RFP), which GEO published on the Consortium's behalf. The RFP sought bids to address two high-priority topics from the Research Strategy that will inform

³⁰ (n.d.) *Home*. Maine Offshore Wind Initiative. Retrieved December 13, 2023 from <https://www.maineoffshorewind.org/>

³¹ An Act Regarding the Procurement of Energy from Offshore Wind Resources. P.L. 2023, Chapter 481 (L.D. 1895), 131st Maine Legislature. <https://legislature.maine.gov/bills/getPDF.asp?paper=SP0766&item=5&snum=131>

³² An Act to Prohibit Offshore Wind Power Development in Territorial Waters and Submerged Lands of the State. P.L. 2021, Chapter 407 (L.D. 1619), 130th Maine Legislature. <https://legislature.maine.gov/legis/bills/getPDF.asp?paper=SP0512&item=5&snum=130>

the planning and preconstruction phase of offshore wind development in the Gulf of Maine, including:

- Exploring approaches to fisheries coexistence with floating offshore wind; and
- Inventorying baseline data on socioeconomics of Maine fishing communities to help assess potential positive and negative impacts of floating offshore wind in the Gulf of Maine.

A final decision on the proposals is expected in early 2024. The Advisory Board also identified a third research priority: collecting baseline data on benthic habitats in key areas of the Gulf of Maine. The Consortium's Steering Committee decided the most cost-effective approach to collecting this data is to leverage existing Maine Department of Marine Resources assets and offer collaborative research opportunities with Maine fishermen through the Maine Coastal Mapping Initiative. The state will publish a competitive RFP for commercial fishing vessel support and begin benthic mapping work in spring 2024. The Advisory Board and GEO intend to issue a second RFP in Spring 2024 to explore additional topics identified in the Research Strategy.

The 2023 Annual Report of the Research Consortium was published at the end of 2023 and can be found on GEO's website³³. To date, GEO has received \$3,000,000 in General Funds, has allocated or obligated \$2,486,418, and has \$513,581 remaining. GEO and the Advisory Board intend to spend the remaining \$513,581 on a second RFP in FY 2023-2024 to advance the research strategy as well as public education, engagement, and communications. There are also plans for additional funds to be provided in the biennial budget in July 2024. Ongoing funds, likely from a variety of sources, will be needed hereafter to address operations and the remaining and future research priorities identified by the Advisory Board. The state continues to identify opportunities to leverage additional funding from external partners (including federal and private) to advance shared research priorities.

GULF OF MAINE FLOATING OFFSHORE WIND RESEARCH ARRAY

In 2021, after nearly a year of extensive stakeholder outreach and analysis, GEO applied to the Bureau of Ocean Energy Management (BOEM) to lease a 15.2-square-mile area nearly 30 miles offshore in the Gulf of Maine for the nation's first floating offshore wind research site in federal waters. This follows the passage of L.D. 336³⁴, which declared the research array is in the public interest and authorized the PUC to negotiate a power purchase agreement with the University of Maine's offshore wind development partner, New England Aqua Ventus.

As part of a phased approach to offshore wind, the state hopes to deploy a research array of 12 or fewer wind turbines on innovative floating hulls designed at the University of Maine (UMaine). This project will advance UMaine's patented technology and will foster leading research on floating offshore wind interactions with Maine's marine environment, fishing industry, shipping, and navigation routes, and more. By addressing fundamental questions about how offshore wind can exist in the Gulf of Maine, the research array will advance the development of Maine's offshore

³³ (2023, December 28). *Maine Offshore Wind Research Consortium 2023 Annual Report*. Maine Governor's Energy Office. Retrieved January 2, 2024 from <https://www.maine.gov/energy/sites/maine.gov.energy/files/inline-files/Maine%20Offshore%20Wind%20Research%20Consortium%20Fund%20Annual%20Report%202023.pdf>

³⁴ An Act to Encourage Research to Support the Maine Offshore Wind Industry. P.L. 2021, Chapter 327 (L.D. 336), 130th Maine Legislature). <https://www.mainelegislature.org/legis/bills/getPDF.asp?paper=SP0142&item=3&num=130>

wind economy while informing the responsible growth of floating offshore wind in the United States and beyond.

In 2023, GEO coordinated with partner state agencies (Department of Marine Resources, Department of Inland Fisheries and Wildlife, Department of Environmental Protection, Maine Historic Preservation Commission, and others) and led the state's participation in the BOEM leasing process for the research array. This process included advocating for Maine's interests throughout the process by submitting public comments, sharing data, and participating in meetings. On March 20, 2023, BOEM published the Notice of Determination of No Competitive Interest in a Proposed Research Lease Area on the Gulf of Maine Outer Continental Shelf in the Federal Register.³⁵ Following this determination, BOEM initiated an environmental assessment of potential impacts from offshore wind leasing activities associated with the research lease. On July 21, 2023, BOEM published the Notice of Availability for the Draft Environmental Assessment for the proposed Gulf of Maine Research Lease in the Federal Register.³⁶

GEO also participated in proceedings with the Maine PUC regarding the Power Purchase Agreement for the Research Array authorized by L.D. 336. GEO anticipates BOEM will issue the research lease in 2024; it is anticipated that the PUC will make a determination on a Power Purchase Agreement (PPA) in 2024. Following a final decision on the lease and the PPA, the developer, Diamond Offshore Wind, will begin environmental surveys and develop a Research Activities Plan, in coordination with GEO and other state agencies, to inform responsible planning and development of the research array.

PORT ASSESSMENT

In 2020, Governor Mills identified the Port of Searsport as a potential site to support the transportation, assembly, and fabrication of offshore wind turbines in Maine, and called for a study to analyze this opportunity. The study, delivered by engineering firm Moffat & Nichol in 2021, evaluated the physical and technical characteristics of the Port of Searsport and identified multiple sites for consideration to be part of a hub for offshore wind in Maine. Governor Mills directed her administration to conduct robust stakeholder engagement with the community of Searsport, which began in 2022.

The State of Maine assembled an Offshore Wind Port Advisory Group (OSWPAG) in 2022 to advise the Maine Department of Transportation (DOT), GEO, and other state officials regarding the development of a wind port. The objective of the OSWPAG is to identify port development strategies that allow Maine to realize the environmental and economic benefits of offshore wind while minimizing adverse social and economic impacts. The OSWPAG met from 2022-2023 and

³⁵ (2023, July 21) *Notice of Availability of a Draft Environmental Assessment for a Wind Energy Research Lease on the Atlantic Outer Continental Shelf Offshore Maine*. Federal Register. Retrieved January 2, 2024 from <https://www.federalregister.gov/documents/2023/07/21/2023-15389/notice-of-availability-of-a-draft-environmental-assessment-for-a-wind-energy-research-lease-on-the>

³⁶ (2023, July) *Wind Energy Research Lease on the Atlantic Outer Continental Shelf Offshore Maine*. Bureau of Ocean Energy Management. Retrieved January 2, 2024 from <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/GoME-RL-EA.pdf>

provided the structure for a robust stakeholder discussion with respect to wind port development in Maine.

BOEM GULF OF MAINE TASK FORCE

In 2021, the Biden-Harris Administration announced a federal target of 30 GW of offshore wind deployed by 2030. Later that year, the U.S. Department of Interior announced plans to advance commercial-scale offshore wind through seven offshore lease sales, including in the Gulf of Maine, in coming years. The plans include an anticipated commercial offshore wind lease sale in the Gulf of Maine in late 2024. In 2022, the Administration also announced a new federal target of 15 GW of floating offshore wind by 2035, building on the Administration's existing goal of deploying 30 GW of offshore wind by 2030, which will be largely met using fixed-bottom technology.

BOEM has established the Gulf of Maine Intergovernmental Renewable Energy Task Force to oversee energy leasing off the coasts of Maine, Massachusetts, and New Hampshire.⁷ GEO is the lead and coordinating entity for the state's participation in the BOEM Gulf of Maine Task Force. The Task Force last met in May 2023 to advance BOEM's leasing plans in the Gulf of Maine with an auction planned in late 2024. In 2022, Governor Mills sent a letter to BOEM encouraging the agency to follow Maine's lead and ensure Maine fishermen are meaningfully engaged in the process. Governor Mills continued to emphasize protection of Maine's important fishing areas in a joint statement³⁷ to BOEM with Maine's congressional delegation in November 2023.

In April 2023, BOEM announced the next phase of the siting process with a Call for Information and Nominations, which closed in June 2023, with 127 comments submitted. In October 2023, BOEM announced a narrowed area for potential siting called the Draft Wind Energy Area (WEA), which closed in November with more than 300 comments received. Throughout 2023, GEO worked with partner agencies and advocated for Maine's interests by submitting public comments, sharing data, and participating in meetings. Maine's comments to BOEM underscored the priorities identified in the Maine Offshore Wind Roadmap. Key comments included:

- Offshore wind is important to Maine's and New England's statutory requirements and long-term energy future.
- Advancing the state's proposed floating offshore wind research array is important to inform the responsible development of future commercial offshore wind projects in the Gulf of Maine.
- Offshore wind developed in federal waters with proximity to Maine presents a significant economic opportunity for Maine that could reach communities throughout the state and improve the state's economic resilience.
- Protecting areas of greatest importance to fishing activity, tribes, other ocean users, and the Gulf of Maine ecosystem is essential to responsible offshore wind development.

³⁷ (2023, November 16). *Maine's Congressional Delegation and Governor Mills Continue to Push to Prohibit Offshore Wind Development in Maine Fishing Grounds*. State of Maine Office of Governor Janet T. Mills. Retrieved December 15, 2023 from <https://www.maine.gov/governor/mills/news/maines-congressional-delegation-and-governor-mills-continue-push-prohibit-offshore-wind>

- Maine supports multi-factor bidding and BOEM lease stipulations that prioritize port investments and create family-supporting jobs, economic development, community benefits, and meaningful stakeholder engagement.
- The state intends to continue expanding regional coordination and collaboration to minimize impacts and maximize benefits of offshore wind in the Gulf of Maine.
- Continued proactive engagement with other federal agencies is critical to a fully informed, timely lease auction.
- Continued, proactive, and meaningful engagement with existing ocean users, tribes and other stakeholders is critical and BOEM should continue employing a variety of traditional and innovative ways to engage with important stakeholders, especially the fishing industry.

In response to Maine's comments, BOEM held additional in-person and virtual meetings in Maine, New Hampshire, and Massachusetts as the process advanced throughout 2023. In July 2023, BOEM hosted in-person meetings in Massachusetts, New Hampshire, and Maine to seek feedback and on-the-water knowledge from the Gulf of Maine fishing community to improve the spatial models used to inform draft Wind Energy Areas. The in-person meetings provided an opportunity to meet with the BOEM team, learn about the data BOEM has received, and share feedback on how the spatial model has incorporated that data. The meetings included a mix of plenary and smaller group conversations. BOEM also convened six virtual meetings during the first week of November 2023 to provide information and receive input on the recently announced draft WEA in the Gulf of Maine, as well as Secondary Areas for Further Analysis ("Secondary Areas"). BOEM offered an initial meeting oriented to all audiences. Five subsequent meetings focused on specific stakeholder groups, such as fisheries by gear type, although all meetings were open to the public and recorded. The meetings provided useful input that will inform the agency's approach to identifying final WEAs in early 2024.

In summary, the State of Maine has advocated for Maine's interests throughout the entire BOEM process by submitting public comments, sharing data, participating in meetings, and facilitating stakeholder engagement. GEO will remain closely engaged with stakeholders, ocean users, BOEM, state officials from New Hampshire and Massachusetts, and other Task Force members as the process continues.

OFFSHORE WIND PARTNERSHIPS

In 2023, GEO worked in close partnership with several regional, national, and international organizations to inform the state's offshore wind development process and share Maine's experiences. Those partnerships include but are not limited to:

- **Federal-State Offshore Wind Implementation Partnership**³⁸
Maine joined this partnership to advance responsible offshore wind. The partnership has a working group focused on key factors to advance the domestic offshore wind supply chain,

³⁸ (2022, June 23). *Fact Sheet: Biden Administration Launches New Federal-State Offshore Wind Partnership to Grow American-Made Clean Energy*. The White House. Retrieved December 13, 2023, from <https://www.whitehouse.gov/briefing-room/statements-releases/2022/06/23/fact-sheet-biden-administration-launches-new-federal-state-offshore-wind-partnership-to-grow-american-made-clean-energy/>

ports, and workforce development. In September 2023, Maine signed a Memorandum of Understanding³⁹ with four federal agencies (U.S. Departments of Interior, Commerce, Energy, and Transportation) and eight other east coast states (CT, MA, NH, RI, MD, NJ, NY, and NC) to commit to regionally coordinated domestic offshore wind supply chain development. Maine is advancing partnerships with the participating northeast states.

- **The National Offshore Wind Research and Development Consortium**

GEO is a board member of the National Offshore Wind Research and Development Consortium, a non-profit public-private alliance dedicated to responsible, cost-effective offshore wind energy and technology research in the United States. As a member of the board, Maine has access to leading innovation, research, and resources for its offshore wind program, which will allow the state to benefit from experiences elsewhere in the country while sharing insights and information from offshore wind research in Maine.

- **The Regional Wildlife Science Collaborative for Offshore Wind**

GEO is the Maine lead entity and State Caucus member of the Regional Wildlife Science Collaborative for Offshore Wind (RWSC). RWSC⁴⁰ is dedicated to regional planning, coordination, and collaboration on ocean wildlife research and monitoring with regards to the development of offshore wind energy. The RWSC creates a forum for sharing information, standardizing data collection and monitoring protocols, defining key research needs, and amplifying research results. GEO participated on the RWSC State Caucus throughout 2023.

Other partnerships: GEO continues to partner with several other entities on offshore wind, conducting activities including:

- Working with colleagues in the United Kingdom, Denmark, and Norway to share renewable energy research and policy approaches,
- Participating alongside other states and countries in the Clean Energy States Alliance's Offshore Wind Learning Exchange to learn about different policies and collaboration opportunities around the world,
- Partnering with other states and the National Renewable Energy Laboratory in the Offshore Wind Workforce Network,
- Collaborating with the Responsible Offshore Science Alliance,
- Participating on a technical review committee for the U.S. Department of Energy Atlantic Offshore Wind Transmission Study, and
- Working with Oceantic (formerly the Business Network for Offshore Wind) to create economic and investment opportunities for Maine businesses in the offshore wind sector.

³⁹ (2023, September 20). *Memorandum of Understanding*. The White House. Retrieved December 13, 2023, from <https://www.whitehouse.gov/wp-content/uploads/2023/09/Federal-State-MOU-on-East-Coast-Offshore-Wind-Supply-Chain-Collaboration.pdf>

CLEAN ENERGY PARTNERSHIP

In 2021, the Maine Legislature approved the Maine Jobs & Recovery Plan (MJRP).⁴¹ The MJRP, put forward by Governor Mills, invests nearly \$1 billion in federal American Rescue Plan funds with the goal of achieving long-term economic stability and resilience. As outlined in the plan, more than \$300 million is being invested in workforce development through education and skills training programs, among others, to bolster Maine's workforce and build an economy poised for growth. Since the MJRP has been put into action, GEO has advanced numerous priorities from the plan by leading the development of the Clean Energy Partnership (CEP) and coordinating with state agencies and partners to support workforce development, community resilience, and provide expertise on energy-related topics.

GEO received \$6.5 million from the MJRP to establish the CEP, which aims to advance clean energy partnerships and initiatives to grow the workforce and increase innovation in Maine's clean energy sector in support of Governor Mills' goal of 30,000 clean energy jobs in Maine by 2030. The CEP is led by GEO in partnership with the Governor's Office of Policy Innovation and the Future (GOPIF), the Maine Department of Labor (MDOL), and the Maine Department of Economic and Community Development (DECD). Other partners include the Maine Community College System, the University of Maine system, MaineHousing and Community Action Programs, private companies, labor unions, nonprofits, municipalities, and State and local chambers of commerce, among many others.

ADVISORY GROUP

The CEP Advisory Group⁴² (Advisory Group) includes representatives from industry, labor, support organizations, training and educational institutions, and state government, and helps guide CEP program development and implementation. This work includes defining workforce needs, monitoring progress, advising adjustments, and designing future program development. In 2023, the Advisory Group met four times. A list of Advisory Group members can be found on the GEO website²⁶.

WORKFORCE DEVELOPMENT

GEO was awarded \$2.9 million in funds from the MJRP to support qualified individuals and entities in advancing workforce development and training for the clean energy and energy efficiency fields. In 2023, GEO was successful in securing an additional \$2.75 million in Congressionally Directed Spending for Community Projects from Senator Angus King and Congresswoman Chellie Pingree and applied to the U.S. Department of Labor's Employment and Training Administration to access these funds. The CEP provides funding to clean energy employers, educational institutions, industry associations, and nonprofit organizations to develop new curricula, provide technical training and

⁴¹(n.d.) *The Maine Jobs and Recovery Plan*. State of Maine. Retrieved December 14, 2023 from <https://www.maine.gov/covid19/maine-jobs-and-recovery-plan>.

⁴²(n.d.). *Clean Energy Partnership*. State of Maine Governor's Energy Office. Retrieved December 14, 2023 from <https://www.maine.gov/energy/initiatives/cep>

experiential learning, deploy new job placement services, and conduct other activities related to workforce development and training.

In 2023, CEP programming reached a total of 2,032 participants, including:

- Over 300 who received training, credentialing, and job placement, and
- Over 1,700 who have received clean energy education and career outreach.

In addition:

- 30 Maine businesses and community organizations received economic assistance, and
- 18 new career development or job training programs have been offered.

Highlights from 2023 CEP-funded programs are listed below:

- Associated General Contractors of Maine launched construction immersion pre-apprenticeship programs at Brewer High School, Biddeford Regional Center of Technology, Bath Regional Technical School, and Westbrook Regional Vocational School. A total of 50 students graduated from these programs, earning a cumulative total of 213 certificates and gaining exposure to 13 different construction crafts, including hydroelectric facility maintenance, HVAC, plumbing, electrical, and concrete foundations.
- The Building Performance Association (BPA) provided training in energy efficiency and weatherization to 80 people including classroom instruction in building science and in-field trainings in energy auditing and weatherization. BPA also developed local business development and marketing resources for contractors and provided career resources for over 800 job seekers.
- Downeast Community Partners (DCP) trained a cohort of 9 weatherization technicians to perform home repair and weatherization projects in rural Downeast Maine. In partnership with Washington County Community College, DCP has developed a scalable registered apprenticeship program that combines technical instruction in a classroom setting with on-the-job training. Trainees received industry certifications and completed 9 weatherization jobs under the supervision of experienced weatherization technicians, including mobile home and stick-built home weatherization projects.
- Northeast Energy Efficiency Partnerships established the ReMaine internship program to provide 240-hour paid internship positions with clean energy employers for Maine students and residents. The program placed a diverse group of 26 interns across a variety of clean energy professions, with 57 percent of interns identifying as female and 38 percent of interns identifying as Black, Indigenous, or People of Color. Interns were placed in a range of positions, from weatherization and heat pump installation to engineering, administrative support, communications, and carpentry.
- passivhausMAINE conducted 21 builder trainings across Maine focused on advanced building techniques including air sealing, thermal bridge mitigation, and continuous insulation. passivhausMAINE's trainings reached over 250 participants, advancing their knowledge of energy efficient construction and retrofitting and bringing them up to speed on the Maine Uniform Building and Energy Code and Stretch Codes.

- ReVision Energy provided climate and clean energy education to over 1,200 K-12 students via their Tiny Climate Classroom initiative. The initiative includes rooftop solar panels, a heat pump, and battery back-up, and combines a physical learning environment with climate-focused activities.
- The University of Maine hosted 565 students at its Windstorm Challenge, an engineering design competition for Maine middle and high school students where they design a floating offshore wind hull and test it at the University's Advanced Structures and Composites Center. This annual competition is among several new offshore wind trainings and courses offered at the University of Maine, including one of the first undergraduate courses on offshore wind farm engineering to be offered in the United States.

INNOVATION

GEO was budgeted \$2.5 million in MJRP funds to support programs that advance innovative startups in the clean energy sector (i.e. cleantech). In December 2023, GEO awarded \$1.3 million in grants to three organizations⁴³ to create clean energy business incubator and accelerator programs in four key energy sectors including buildings and energy efficiency, renewable electric power generation, grid modernization and energy storage, and natural resource industries.

The three awardees include the Roux Institute at Northeastern University in Portland (Roux Institute), Coastal Enterprises, Inc. in Brunswick (CEI), and the Central Maine Growth Council in Waterville (CMGC).

- The Roux Institute was awarded \$975,000 to work with the University of Maine, Startup Maine, and other partners to develop a clean energy incubator program supporting startup companies through mentorship and professional services, access to capital, and community events. Through this program, the Roux Institute plans to host 40 individual cleantech startups in the first two years.
- CEI was awarded \$300,000 to develop a business advising program aimed at growing and scaling contractor businesses that deliver home weatherization and energy efficiency services in rural and low-income communities.
- CMGC was awarded \$111,774 to expand its Dirigo Labs startup accelerator and pitch contest to provide hands-on startup coaching, advisement, and research and development support for clean energy and cleantech startups.

CLEAN ENERGY CLEARINGHOUSE AND JOB BOARD

GEO received \$800,000 in MJRP funds to design, procure, and implement an interactive website database for clean energy career opportunities including internships, apprenticeships, training and educational programs, job openings, and information on clean energy career pathways. In 2023, GEO selected Blaze Partners to develop and execute a communications plan and build an interactive website to reach youth, jobseekers, businesses, investors, entrepreneurs, and career

⁴³ (2023, December 5) *Governor Mills Announces \$1.3 Million in Maine Jobs & Recovery Plan Grants To Advance Innovative Clean Energy Businesses*. Office of Governor Janet T. Mills. Retrieved on December 14, 2023 from <https://www.maine.gov/governor/mills/news/governor-mills-announces-13-million-maine-jobs-recovery-plan-grants-advance-innovative-clean>

development service providers. As part of the website development, Blaze will help GEO build a clean energy job board and directory of clean energy workforce trainings. The new website is anticipated to launch in early 2024.

FEDERAL FUNDING

In 2021, President Biden signed the federal Bipartisan Infrastructure Law (BIL), also known as the Infrastructure Investment and Jobs Act, which allocates more than \$2.4 billion to Maine for infrastructure improvements that provide climate resilience, low-income weatherization assistance, and expanded electric vehicle (EV) charging, electrification of school bus fleets, electrical grid modernization, and more. In addition to the opportunities presented by the BIL, the Inflation Reduction Act (IRA) of 2022 extended federal tax credits for renewable energy development in the U.S. Both the BIL and IRA present funding opportunities to support continued progress toward Maine's energy and climate goals.

GEO is actively pursuing BIL and IRA funding for a broad range of energy programs and monitoring new opportunities as they become available. GEO continues to explore several avenues to secure federal funds, including applying directly for funds to be made available through state processes for eligible uses and through partnerships with other eligible entities in Maine and the Northeast. Federal funds available to states may be awarded through formula allocations or competitive processes. Formula fund programs allocate a non-competitive award determined by a federal formula to states, municipalities, tribes, or other eligible entities. Eligibility varies depending on the program. States must submit a plan for distribution of formula awards and receive federal approval prior to receiving a formula allocation.

GEO continues to work alongside other state agencies to understand the implementation of the Justice40 equity framework, particularly with regards to funding that will be made available through the Bipartisan Infrastructure Law and other federal opportunities. Justice40, established by Executive Order 14008, is a whole-of-government approach to ensure at least 40 percent of benefits from federal investments in climate and clean energy flow to disadvantaged communities.

STATE ENERGY PROGRAM – SECTION 40109

The U.S. Department of Energy's State Energy Program (SEP) provides funding and technical assistance to states, territories, and Washington D.C. to enhance energy security, advance state-led energy initiatives, and maximize the benefits of decreasing energy waste. Section 40109 of the BIL provided an additional \$500 million to the SEP. Most of this funding was allocated to states, U.S. Territories, and Washington D.C. to supplement annual formula appropriations. In 2022, Maine applied for and received \$3,694,530 under Section 40109. GEO will continue to utilize these funds over the next few years to support staff and policy support previously funded with one-time or temporary revenue sources. Staff conduct work in support of the SEP and state energy policy goals.

STATE ENERGY SECURITY PLAN

States that participate in the U.S. State Energy Program are required to develop plans to enhance energy security, emergency response, and resilience. GEO is responsible for developing Maine's Energy Security Plan. This plan provides the federal government, state and local government agencies, and the energy industry with a communications and coordination blueprint designed to address a potential or actual energy emergency caused by supply disruptions, a rapid and unsustainable increase in energy prices, or other energy emergency. It is a manual for state government leaders charged with the responsibility of ensuring the health, welfare, and safety of Maine citizens during emergency events.

The BIL and subsequent guidance issued by DOE provided a uniform structure and set of guidelines for states to follow when developing their plans. The new format for energy security plans includes a state energy profile; identification of energy related threats and vulnerabilities; risk assessment of energy infrastructure, including cross sector interdependencies; energy security roles and responsibilities; and energy resiliency and hazard mitigation. In September 2023, GEO submitted a draft of this comprehensive energy security plan to the DOE for review. In 2024, Maine will continue to refine and develop this plan based on feedback from the DOE. Enhancements will include the expansion of the threats, vulnerabilities, and cross sector interdependencies sections of the plan. GEO will also conduct additional outreach to state and local agencies that engage with energy security. An updated plan is expected to be completed and submitted to the DOE in 2024.

TECHNICAL ADVISORY GROUP

The National Renewable Energy Laboratories (NREL) and DOE established the Onsite Energy Systems at Critical Facilities Technology Action Group (TAG) as a voluntary pilot opportunity for states to coordinate to develop plans for powering critical facilities during grid outages. GEO has been participating in the TAG since the initiative began in 2021, and the work of the group continued into 2023. Through participation in the TAG process, GEO seeks to pilot the viability of REopt⁴⁴, a resilience planning tool for facilities developed by NREL, in alignment with ongoing and emerging work in Maine, and communicate outcomes of the pilot.

GRID RESILIENCE FORMULA FUNDS – SECTION 40101(d)

The federally funded Maine Grid Resilience Grant Program seeks to increase the resilience of the electric grid and Maine communities while increasing clean energy workforce opportunities and aligning with ongoing electric grid modernization and state climate goals. GEO applied for the funds and received confirmation of a \$4.356 million grant award from DOE in mid-2023. In 2024, GEO will conduct a competitive solicitation process to identify projects that advance the program goals in alignment with the program narrative as well as state and federal procurement procedures. The

⁴⁴ (n.d.). *REopt web tool*. REopt: Renewable Energy Integration & Optimization. Retrieved December 15, 2023 from <https://reopt.nrel.gov/tool>

funds available under this program are intended to improve the resilience of the electric grid against disruptive events including extreme weather and natural disasters. Learn more about Maine's Grid Resilience Grant Program by visiting the GEO website⁴⁵.

HOME ENERGY REBATE PROGRAMS

In July 2023, DOE's Office of State and Community Energy programs released program guidance for the IRA Home Electrification and Appliance Rebates (HEAR) and Home Efficiency Rebates (HER) programs (combined \$8.8B nationally). GEO is working with partners to design rebate programs for Maine in line with the objectives outlined in the *Maine Won't Wait* Climate Action Plan. The HEAR (\$4.5B nationally; \$35.7M for Maine) will award grants to State Energy Offices and Tribal nations to develop and implement high-efficiency electric home rebate programs. The HER (\$4.3B nationally; \$35.9M for Maine) will award grants to State Energy Offices to provide rebates that discount the price of energy-saving retrofits in single-family and multi-family buildings. In 2023, GEO worked with Efficiency Maine and MaineHousing to develop understanding of guidance as well as strategic goals and initiatives associated with these programs. Public meetings will be held in early 2024 to gather stakeholder input for Maine's application, which is anticipated to be submitted in early 2024.

ASSISTANCE FOR LATEST AND ZERO BUILDING ENERGY CODE ADOPTIONS

Maine is eligible for up to \$2.6M in formula funding to support the adoption and implementation of building energy codes that reduce utility bills, increase efficiency, reduce greenhouse gas emissions, and make buildings more resilient to climate change-related disasters. Maine is also eligible for up to \$1.8M in formula funding to adopt a building energy code for residential and commercial buildings that meets or exceeds the zero energy provisions in the 2021 IECC or equivalent stretch code. GEO, in coordination with the Department of Public Safety and the Technical Building Codes and Standards Board, submitted a Letter of Intent to apply on December 21, 2023.

STATE-BASED HOME ENERGY EFFICIENCY CONTRACTOR GRANTS

Maine is eligible to apply for \$1.3M in formula funding through the DOE Office of State and Community Energy Programs' State-Based Home Energy Efficiency Contractor Training Grants program. The program will provide states with funds to develop and implement workforce training programs for residential efficiency and electrification projects. Funds may be utilized to reduce the cost of training, testing, and certifying residential energy efficiency and electrification contractors. In January 2024, GEO is working to develop a program and to gather feedback from key stakeholders to inform the state's application in advance of the January 31, 2024 deadline.

⁴⁵ (n.d.). *Grid Resilience Grant Program*. State of Maine Governor's Energy Office. Retrieved December 14, 2023 from <https://www.maine.gov/energy/initiatives/infrastructure/gridresilience>

ENERGY EFFICIENCY & CONSERVATION BLOCK GRANT PROGRAM

The Energy Efficiency and Conservation Block Grant (EECBG) Program is designed to assist states, local governments, and Tribes in implementing strategies to reduce energy use, reduce fossil fuel emissions, and improve energy efficiency. The \$550,000,000 program, funded through the BIL, has both competitive and formula grants. GOPIF, with support from GEO, applied and was approved for funding in summer 2023.

ENERGY EFFICIENCY REVOLVING LOAN FUND CAPITALIZATION GRANT PROGRAM

The \$250,000,000 Energy Efficiency Revolving Loan Fund Capitalization Grant Program, funded by the BIL, is designed to provide capitalization grants to state and territories to establish revolving loan funds to invest in energy efficiency upgrades. GEO and Efficiency Maine coordinated to apply for these funds in mid-2023 for beneficial electrification projects.

U.S. DEPARTMENT OF ENERGY RIDE AND DRIVE PROGRAM

In August 2023, GEO applied for the DOE Joint Office of Energy and Transportation: Ride and Drive Electric⁴⁶ competitive funding opportunity to support clean energy workforce development. In partnership with the Maine Departments of Labor, Transportation, Education, and the Maine Community College System, GEO's application seeks to build the electric vehicle (EV) workforce in Maine through the development of new EV training and educational programming throughout the state. GEO anticipates notification of award decision in early 2024.

REGIONAL CLEAN HYDROGEN HUBS INITIATIVE

GEO, on behalf of Maine, joined a multi-state Northeast consortium to explore funding opportunities through DOE's Regional Clean Hydrogen Hub initiative. Partners in the coalition included the states of New York, Rhode Island, Connecticut, New Jersey, Vermont, and Massachusetts, as well as a diverse set of public and private hydrogen ecosystem partners from across the region. The Northeast consortium submitted a \$1.25 billion funding proposal to DOE in April 2023 that included a portfolio of more than a dozen clean hydrogen projects for use in hard to decarbonize sectors across the seven states with an aim of supporting the region's climate and clean energy goals and decarbonization efforts in tandem with electrification. This proposal did not receive a grant award.

GRID RESILIENCE & GRID INNOVATION PROGRAMS

In 2022, DOE announced the opening of the Grid Resilience and Innovation Partnerships Program (GRIP)⁴⁷ under the BIL, which includes the Grid Innovation Program (GIP). The GIP is a funding

⁴⁶ (2023, May 18). *BIL Joint Office of Energy and Transportation Ride and Drive Electric, Fiscal Year 2023 Funding Opportunity Announcement*. Interagency Working Group on Coal & Power Plant Communities & Economic Revitalization. Retrieved December 14, 2023 from <https://energycommunities.gov/funding-opportunity/joint-office-of-energy-and-transportation-ride-and-drive-electric-fiscal-year-2023-funding-opportunity-announcement/>

⁴⁷ (2023, October 18). *Grid Resilience and Innovation Partnerships (GRIP) Program*. U.S. Department of Energy. Retrieved December 14, 2023 from <https://www.energy.gov/gdo/grid-resilience-and-innovation-partnerships-grip-program>

mechanism under Section 40103(c) of the BIL that supports projects using innovative approaches to transmission, storage, and distribution infrastructure to enhance grid resilience and reliability. In December of 2022, GEO collaborated with other New England states, including Massachusetts, Connecticut, and Rhode Island, to initiate the first steps in pursuit of federal funding available through the GIP. GEO is currently engaged with neighboring states and entities within Maine on the initial funding round and remains engaged in discussions regarding potential applications for the second round of GIP funding, which opened on November 14, 2023. More information on the GIP can be accessed by visiting the GEO website⁴⁸.

ENERGY IMPROVEMENTS IN RURAL AREAS

Section 40103(c) under the BIL, managed by the Office of Clean Energy Demonstrations, allocates \$1 billion for improvements in energy generation in rural or remote communities. This program supports activities that improve the cost-effectiveness of energy generation and transmission and reduce greenhouse gas emissions from electricity generation, in addition to other priorities. In August of 2023, GEO supported and led several applications to the program in coordination with partners and is expecting to hear back in winter 2024.

SOLAR FOR ALL – GREENHOUSE GAS REDUCTION FUND

The Environmental Protection Agency’s Solar for All Program is a one-time IRA-funded competitive opportunity for states and other entities to support the deployment of residential rooftop and community solar, energy storage, and upgrades for low-income and disadvantaged communities. In October 2023, after robust analysis and stakeholder engagement, GEO applied for a \$99.5 million grant through the program. If fully funded, the application would benefit approximately 37,000 low-income and disadvantaged households in Maine via deployment of solar and energy storage. The application also seeks funding to expand workforce development opportunities and provide technical assistance to reduce barriers to solar deployment. Awards are expected to be announced in Spring 2024. For more information on GEO’s application, please visit the GEO website⁴⁹.

MAINE CLIMATE COUNCIL

Three years have passed since the release of Maine’s four-year climate action plan, *Maine Won’t Wait*, with demonstrated progress in Maine’s fight against climate change.⁵⁰ The *Maine Won’t Wait Three-*

⁴⁸ (n.d.). *Grid Innovation Program*. State of Maine Governor’s Energy Office. Retrieved December 14, 2023 from <https://www.maine.gov/energy/initiatives/infrastructure/gridinnovationprogram>

⁴⁹ (n.d.). *Solar for All*. Maine Governor’s Energy Office. Retrieved January 2, 2024 from <https://www.maine.gov/energy/initiatives/infrastructure/solar-for-all>

⁵⁰ (2020, December). *Maine Won’t Wait: A Four-Year Plan for Climate Action*. State of Maine Governor’s Office of Policy Innovation and the Future. Retrieved December 15, 2023 from https://www.maine.gov/future/sites/maine.gov.future/files/inline-files/MaineWontWait_December2020.pdf.

*Year Progress Report*⁵¹, published in December 2023, contains detailed progress updates on each of the strategies outlined in the action plan and tracks progress toward goals which can be used to inform the public about whether Maine's climate policies are having the intended effects, and for evaluating whether evidence-based adjustments, enhancements or replacements to policies are needed in pursuit of near-term and long-term climate objectives. In 2023, GEO supported efforts to track progress toward Maine Won't Wait targets. Progress can be tracked on the new Maine Won't Wait Dashboard⁵².

September 29, 2023 marked the beginning of the planning and engagement process to update the plan and deliver a second four-year climate action plan to the Maine Legislature in late 2024. The climate planning process is led by GOPIF and the Maine Department of Environmental Protection (DEP) with engagement from GEO, and seeks significant public engagement, featuring contributions from more than 200 people serving on the Maine Climate Council (MCC) and its six expert working groups, in addition to both a Scientific and Technical Subcommittee and an Equity Subcommittee.

GEO staff engage in several working groups to provide technical feedback and policy support. The working groups include Buildings, Infrastructure and Housing; Coastal and Marine; Community Resilience; Natural and Working Lands; Transportation; and Energy. GEO Director Dan Burgess co-chairs the Energy Working Group alongside Ken Colburn of Symbiotic Strategies, LLC.

EQUITY

Throughout 2023, equity has been an increasing focus of the work of the Maine Climate Council and other state energy initiatives. An Equity Subcommittee of the Maine Climate Council was formed to support ongoing planning and implementation of Maine's climate strategies to ensure shared benefits across diverse populations of Maine people and to understand any concerns for implementation. The subcommittee was tasked with setting clear equity outcomes and metrics for proposed actions, monitoring progress, and making recommendations to ensure that programs and benefits reach the intended populations and communities. The subcommittee's work builds upon the Equity Assessment of Work Group Recommendations by the University of Maine's Senator George J. Mitchell Center for Sustainability Solutions which evaluated the recommendations of the MCC's six working groups from an equity lens.

⁵¹ (2023, December 1). *Maine Climate Council Annual Report*. State of Maine Governor's Office of Policy Innovation and the Future. Retrieved December 15, 2023 from https://www.maine.gov/future/sites/maine.gov.future/files/2023-12/2023_MWW%20Progress%20Report.pdf

⁵² (2023, December 1). *Maine Won't Wait Climate Action Dashboard*. State of Maine Climate Action Plan. Retrieved December 15, 2023 from <https://www.maine.gov/climateplan/dashboard>

OTHER INITIATIVES

NORTHERN MAINE & RURAL ENERGY MONITORING

The Northern Maine Independent System Administrator (NMISA) territory, encompassing portions of Aroostook, Washington, and Penobscot counties, is unique to the rest of the United States in that it is the only territory physically located in the country but not directly connected to the United States grid. The NMISA territory is connected to the rest of ISO New England indirectly through transmission ties with New Brunswick, Canada. The area is home to 90,000 residents, making up approximately 42,000 utility accounts.

GEO completed the Northern Maine Reliability and Rate Stability Stakeholder Group Summary Report in March 2022, fulfilling the obligations required under L.D. 1796⁵³. GEO led a stakeholder process and compiled results from the stakeholder engagement. In April 2022, Governor Janet Mills signed L.D. 682⁵⁴, which directs GEO, in coordination with the Office of the Public Advocate and the PUC, to monitor factors directly affecting energy supply and costs in NMISA territory, as well as in other rural or geographically isolated communities in the state. GEO submitted the Northern Maine & Rural Energy Monitoring Report⁵⁵ to the Legislature in February 2023.

GEO staff attended Versant's Planning Advisory Group (PAG) meeting in June 2023. The PAG, defined in Versant's tariff for the Maine Public District, is a mechanism for input on transmission planning efforts. Following the issuance of the Maine Public Utility Commission order for a final approach to Integrated Grid Planning in 2024, utilities will have 18 months to prepare an Integrated Grid Plan. Versant anticipates conducting their planning process through the PAG.

ENGAGEMENT WITH THE MAINE PUBLIC UTILITIES COMMISSION

The Maine Public Utilities Commission regulates electric, natural gas, telecommunications, and water utilities to ensure that Maine consumers enjoy safe, adequate, and reliable services at rates that are just and reasonable for both consumers and utilities. Throughout 2023, GEO monitored and engaged with the PUC and other stakeholders on several major matters, including grid modernization, rate design, renewable energy integration, transmission development and non-wires alternatives. GEO also engaged with the PUC on matters related to federal funding opportunities, discussed in the Federal Funding section of this report.

⁵³ Resolve, To Study Transmission Grid Reliability and Rate Stability in Northern Maine. L.D. 1796, 129th Maine Legislature (2019). https://www.mainelegislature.org/legis/bills/bills_129th/billtexts/HP127501.asp

⁵⁴ An Act To Ensure the Viability of the Northern Maine Electric Transmission Grid. P.L. 2022, Chapter 158 (L.D. 682), 130th Maine Legislature. <https://legislature.maine.gov/bills/getPDF.asp?paper=SP0270&item=3&snum=130>

⁵⁵ (2023, February 1). *Northern Maine & Rural Energy Monitoring Report*. State of Maine Governor's Energy Office. Retrieved December 15, 2023 from https://www.maine.gov/energy/sites/maine.gov.energy/files/inline-files/23-0201%20LD%20682%20Northern%20Maine%20Report_FinalPDF.pdf

RATE CASES

GEO's engagement with the PUC includes involvement in rate case filings for both Central Maine Power (CMP) and Versant Power, the two investor-owned utilities in the state. The CMP rate case was filed on August 11, 2022⁵⁶. Versant Power filed its rate case on October 3, 2022⁵⁷. GEO actively provided comments and testimony on proposed ratepayer impacts, capital investment decisions, rate design considerations, and opportunities for performance-based incentives through rate case proceedings in 2023.

Additionally, GEO is actively participating in the follow-on Advanced Rate Design Proceeding and submitted a filing on December 1, 2023. This rate design proceeding creates a monitoring and evaluation framework for several existing rates to assess efficacy and guide future rate designs, especially the deployment of beneficial electrification technologies including residential electric vehicle chargers and heat pumps. Further conversations on rate design are needed to achieve Maine's economic and climate goals, and GEO expects to participate in this and other ongoing rate design processes moving forward.

INTERCONNECTION RULEMAKING

The Commission issued new rules on Chapter 324 Small Generator Interconnection rules in November 2023 after a year-long information seeking and rulemaking process, in which GEO was actively involved. These rules adopt national best practices across many interconnection considerations and include energy storage and export capacity provisions for the first time. These interconnection rules will help clarify and streamline interconnection projects and prevent prohibitive costs for small projects intended to offset on-site load. The Legislature also passed L.D. 327⁵⁸, which will create an Interconnection Working Group and establish an Ombudsperson to help resolve disputes. GEO continues to advocate for adoption of assumptions around charging and operating profiles that will facilitate the interconnection of energy storage options.

OTHER DOCKETS

GEO provided comments in several other dockets, including those mentioned briefly below.

During the 2023 legislative session, the 131st Legislature passed L.D. 399⁵⁹. Among other requirements, this piece of legislation requires the PUC to adopt rules allowing competitive electricity providers to satisfy the renewable portfolio standard (RPS) for existing ("Class II") resources through an alternative compliance payment mechanism. The PUC sought to balance cost

⁵⁶ Request for Approval of a Rate Change – 307 (7/30/23) Pertaining to Central Maine Power Company. Office of the Maine Public Utilities Commission, docket 2022-00152.

⁵⁷ Request for Approval of a Rate Change (7/3/23) Pertaining to Versant Power. Office of the Maine Public Utilities Commission, docket 2022-00255. <https://mpuc-cms.maine.gov/CQM.Public.WebUI/Common/CaseMaster.aspx?CaseNumber=2022-00152&FRM=0>

⁵⁸ An Act to Provide Maine Ratepayers with Equitable Access to Interconnection of Distributed Generation Resources. P.L. 2023, Chapter 207 (L.D. 327), 131st Maine Legislature.

<https://legislature.maine.gov/legis/bills/getPDF.asp?paper=SP0148&item=3&snum=131>

⁵⁹ An Act to Amend the Portfolio Requirements for Class II Resources and Require Money Collected from Alternative Compliance Payments to Be Used for Financial Assistance. P.L. 2023, Chapter 361 (L.D. 399), 131st Maine Legislature. <https://www.mainelegislature.org/legis/bills/getPDF.asp?paper=HP0250&item=6&snum=131>

control for ratepayers and enabling the achievement of the RPS obligation and set an alternative compliance payment for Class II resources at \$5/MWh.

In June 2023, the Legislature enacted L.D. 542⁶⁰, a resolve directing the PUC to investigate the feasibility of requiring standard-offer service to include a time-of-use (TOU) rate option and requiring utilities to offer delivery TOU rates that would complement TOU supply rates. This approach could increase electricity affordability by more effectively utilizing existing infrastructure and providing customers with more opportunities to manage their electricity costs, as well as support the achievement of Maine's other energy goals. To that end, GEO submitted comments supporting a time-varying supply rate with a phased approach that includes the use of pilot programs, opt-out rates, and substantial consumer outreach and education.

ENGAGEMENT WITH THE NATIONAL ASSOCIATION OF STATE ENERGY OFFICIALS

The National Association of State Energy Officials (NASEO) is the only national non-profit association for governor-designated energy officials from each of the 56 U.S. states and territories. Formed by the states in 1986, NASEO facilitates peer learning among state energy officials, serves as a resource for and about State Energy Offices, and advocates for the interests of the State Energy Offices to Congress and federal agencies. GEO Director Burgess serves on the Board of NASEO as one of two representatives from New England. Throughout 2023, GEO staff engaged with NASEO to monitor and learn about BIL and IRA funding opportunities as they become available and continued to coordinate with them to maximize federal funding opportunities for Maine. Staff also attended NASEO's Annual Meeting in Portland, Oregon and Northeast Regional Equity Roundtable in Boston, Massachusetts.

OFFICE RESOURCES

At the end of 2023, GEO operated with a staff of thirteen individuals⁶¹, each of whom helped meet the office's responsibilities as outlined above. These positions were funded through a combination of sources including competitive grants, state appropriations and leveraged federal funds. GEO also worked closely with multiple state agencies and departments across Maine government.

MAJOR LEGISLATIVE INITIATIVES

GEO engages closely with members of the Maine Legislature, Legislative Committees, and other state agencies to provide technical assistance and information regarding the state's short-range and long-range energy needs and the resources to meet those needs. GEO primarily engages the Joint

⁶⁰ Resolve, Directing the Public Utilities Commission to Investigate Time-of-use Rates. Resolves 2023, Chapter 79 (L.D. 542), 131st Maine Legislature (2023).

<https://www.mainelegislature.org/legis/bills/getPDF.asp?paper=HP0347&item=7&snum=131>

⁶¹ (n.d.). *About*. State of Maine Governor's Energy Office. Retrieved December 14, 2023 from <https://www.maine.gov/energy/about>

Standing Committee on Energy, Utilities and Technology, working to ensure the passage of policies and development of programs that advance the state's statutory climate and clean energy requirements, and ensure Maine people have access to responsible, affordable, and reliable clean energy resources into the future.

During the First Regular Session and First Special Session of the 131st Maine Legislature, GEO provided testimony on 44 bills before Legislative Committees. Several important energy-focused bills were signed into law by Governor Mills which have positioned the state well to deploy technologies needed to meet our goals while stabilizing energy costs and maximizing the historic federal funding opportunities currently available.

The First Regular Session of the Maine Legislature adjourned sine die Thursday, March 30, 2023. The effective date for nonemergency laws passed during the First Regular Session was Thursday, June 29, 2023. The First Special Session adjourned sine die Wednesday, July 26, 2023. The effective date for nonemergency laws passed in the First Special Session was Wednesday, October 25, 2023.

A handful of these laws assigned GEO with new authority or responsibilities, as detailed below. Since their effective date in late October, the office has made progress on implementation and program design as directed by each law.

P.L. 2023, Chapter 67 (L.D. 952) – Resolve, to Create a 21st-Century Electric Grid
Directs GEO to study the potential costs and benefits of establishing a Distribution System Operator in the state.

In December of 2023, GEO published a Request for Proposals seeking consulting services to conduct an assessment of whether a Distribution System Operator could be designed in Maine to cost-effectively achieve the state's climate goals.

P.L. 2023, Chapter 321 (L.D. 1591) – An Act to Promote Economic Reuse of Contaminated Land Through Clean Energy Development
Establishes a program that gives farmers the opportunity to repurpose PFAS-contaminated agricultural land for solar and energy storage development through a competitive solicitation. Additionally directs GEO to review the impacts of the state's renewable resources portfolio requirements every three years.

GEO worked with the Commission to define the scope of a study on Maine's renewable resource portfolio requirements in 2023 and intends to publicly launch the study process in early 2024.

P.L. 2023, Chapter 374 (L.D. 1850) – An Act Relating to Energy Storage and the State's Energy Goals

Modifies that state's existing energy storage goals, directs GEO to develop the Maine Energy Storage Program to procure up to 200 megawatts of energy storage, and directs GEO to study opportunities for long-duration energy storage in Maine.

In November of 2023, GEO sought public input regarding its evaluation of program designs and consideration of key program objectives for a program to procure up to 200 megawatts of energy storage through a formal Request for Information. GEO received 18 responses.

P.L. 2023, Chapter 411 (L.D. 1986) – An Act Relating to Net Energy Billing and Distributed Solar and Energy Storage

Establishes a new distributed solar and energy storage program utilizing federal funds to be administered by GEO, in addition to making reforms to the state's existing net energy billing programs to reduce costs and ensure ratepayers benefit.

As directed by the law, in October of 2023, GEO requested \$99.5 million from EPA to establish a statewide "Solar for All" program. In the proposal, GEO proposed a comprehensive suite of programs designed to equitably accelerate the deployment of solar and energy storage to benefit Maine's most vulnerable households, delivering energy savings, a cleaner environment, and high quality jobs.

P.L. 2023, Chapter 481 (L.D. 1895) – An Act Regarding the Procurement of Energy from Offshore Wind Resources

Authorizes the procurement of 3,000 megawatts of offshore wind energy in the Gulf of Maine by 2040 to support the economic and job-creating potential of the industry. The legislation also protects prime lobstering ground and support's development of an offshore wind port in the state.

In 2023, GEO worked with the Maine Revenue Service on a required draft tax report, advanced the work of the Maine Offshore Wind Research Consortium, and started a review of other states' approaches to inform the State of Maine's law. In 2024, GEO will begin the extensive process to implement the law.

The following list summarizes additional energy related laws and resolves enacted in 2023; the list is not intended to be all-inclusive.

P.L. 2023, Chapter 1 (L.D. 3) – An Act to Establish the Winter Energy Relief Payment Program to Aid Residents with High Heating Costs and to Finalize the COVID Pandemic Relief Payment Program

Established a one-time \$450 energy relief payment to an estimated 880,000 eligible Maine people.. Provided a \$40 million supplement to the Home Energy Assistance Program, a federal program administered by MaineHousing through local Maine Community Action Partnerships that helps qualified homeowners and renters pay for heating costs.

P.L. 2023, Chapter 215 (L.D. 496) – An Act to Address Battery Storage System Decommissioning and Clarify Solar Energy Development Decommissioning

Establishes a requirement for any battery energy storage system of 2 megawatts or greater in development to obtain approval of a decommissioning plan from the Maine Department of Environmental Protection.

P.L. 2023, Chapter 307 (L.D. 327) – An Act to Provide Maine Ratepayers with Equitable Access to Interconnection of Distributed Generation Resources

Directs the Commission to adopt interconnection rules under the Commission's Chapter 324 Small Generator Interconnection Procedures for solar and energy storage that reflect nationally recognized best practices.

P.L. 2023, Chapter 328 (L.D. 1724) – An Act to Enact the Beneficial Electrification Policy Act

Promotes the policy of beneficial electrification for end uses of energy through coordinated planning, monitoring, and procurement activities.

P.L. 2023, Chapter 448 (L.D. 1881) – An Act Regarding Compensation Fees and Related Conservation Efforts to Protect Soils and Wildlife and Fisheries Habitat from Solar and Wind Energy Development and High-impact Electric Transmission Lines Under the Site Location of Development Laws

Directs the establishment of a compensation fee program for renewable energy development based on location and type of project.

Resolves 2023, Chapter 32 (L.D. 519) – Resolve, to Evaluate a Vehicle-to-grid Pilot Project Using Electric School Buses

Directs the Efficiency Maine Trust to assess the feasibility of implementing a vehicle-to-grid pilot project utilizing electric school buses.

Resolves 2023, Chapter 39 (L.D. 987) – Resolve, Directing the Public Utilities Commission to Initiate a Proceeding to Explore Strategies to Procure Standard-offer Service in a Manner that Promotes the Stability of Residential Standard-offer Rates

Directs the Commission to develop a procurement strategy and consider other measures that could be used to increase rate stability for residential customers that receive standard-offer service.

Resolves 2023, Chapter 66 (L.D. 924) – Resolve, to Provide Legislative Approval of the Transmission Project Selected by the Public Utilities Commission Pursuant to the Northern Maine Renewable Energy Development Program

Provides Legislative approval for construction of the transmission line competitively selected by the Commission pursuant to the Northern Maine Renewable Energy Development Program.

Resolves 2023, Chapter 79 (L.D. 542) – Resolve, Directing the Public Utilities Commission to Investigate Time-of-use Rates

Directs the Commission to investigate the feasibility of requiring standard-offer service to include a time-of-use rate option, and all investor-owned transmission and distribution utilities to offer a time-of-use rate for the delivery of electricity.

STAKEHOLDER ENGAGEMENT & COMMUNICATIONS

In 2023, GEO sought to increase public awareness of energy information and office initiatives as well as meaningful engagement across a diverse array of stakeholders. This included increasing the breadth and amount of stakeholder engagement on policies and programs and working with an increasing number of partners and experts to ensure GEO is sharing information and receiving input from those impacted by relevant policies. Examples of this work include the Maine Offshore Wind Roadmap, the Offshore Wind Research Consortium, the Pathway to 2040 process, the Distributed Generation Stakeholder Group, and issue-specific work sessions, among others. The unprecedented federal investments in clean energy and climate represent a significant opportunity for Maine and is an important focus area for ongoing and future engagement. GEO sought to engage stakeholders in federal funding initiatives through information-sharing, webinars, and publishing draft proposals for public input.

Communication improvements in 2023 include setting up a new, regular newsletter and growing the audience reached, developing communication strategies to reach new audiences, updating the GEO website to improve user experience, conducting various email newsletter campaigns to target specific audiences, utilizing the social media platform LinkedIn to share news and updates, and continuing proactive engagement with local, state, national and trade media. GEO staff members work in collaboration with others to ensure thoughtful, timely, and effective communication of energy-related projects, and are working to increase the quality and amount of engagement. All state public announcements made related to energy or by the Governor's Energy Office in 2023 are listed below. For a list of the following announcements with links, please visit the GEO news page⁶².

- **December 5:** Governor Mills Announces \$1.3 Million in Maine Jobs & Recovery Plan Grants To Advance Innovative Clean Energy Businesses
- **November 21:** Additional Financial Support for Electricity Bills Available to Maine Residents this Winter
- **November 14:** Governor's Energy Office Seeks Proposals to Conduct Research on Offshore Wind in Gulf of Maine
- **November 9:** Governor's Energy Office Releases Updated Guide to Help Maine People Save Money and Stay Warm This Winter

⁶² (n.d.). *News & Events*. Maine Governor's Energy Office. Retrieved January 2, 2024 from <https://www.maine.gov/energy/news-events>

- **September 22:** New England States Issue Invitational Call for Innovative Project Design Concepts in Pursuit of Federal Funding
- **September 20:** Governor Mills Announces \$6.5 Million Maine Jobs & Recovery Plan Program for Electric Grid Upgrades to Support Rural Economic Development
- **September 9:** GEO Releases Draft Solar for All Program Framework for Public Comment
- **July 27:** Governor Mills Signs Bill to Create Jobs, Advance Clean Energy and Fight Climate Change Through Responsible Offshore Wind
- **July 21:** After Maine Surpasses 100,000 Heat Pump Goal Two Years Ahead of Schedule, Governor Mills Sets New, Ambitious Target
- **July 19:** GEO Releases Clean Energy Partnership RFP: Clean Energy Incubators, Accelerators and Business Support Services
- **June 16:** Maine Joins Multi-State Request for Federal Support to Establish Interregional Transmission Planning Collaborative (PDF letter)
- **June 13:** Maine's Congressional Delegation, Governor Mills Ask Federal Agency in Charge of Offshore Wind Leasing to Listen to the Voices of Maine Fishermen
- **June 12:** State of Maine Comments on BOEM's Call for Information and Nominations on Commercial Leasing for Wind Energy Development on the Gulf of Maine Outer Continental Shelf
- **February 23:** Mills Administration Releases Comprehensive Plan to Responsibly Advance Offshore Wind in Maine
- **January 31:** Mills Administration Statement on PUC's Approval of Northern Maine Renewable Energy Projects
- **January 19:** Mills Administration Welcomes Federal Decision to Advance State's Lease for Floating Offshore Wind Research Site

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