STATE OF MAINE

LEAD BY EXAMPLE REPORT

2023–2024

GOVERNOR'S OFFICE OF
Policy Innovation
and the Future

GOVERNOR'S
Energy Office

INTRODUCTION

By taking aggressive action to reduce state emissions and promote energy efficiency, Maine state government can help meet the state's emissions reductions required by law while saving taxpayer dollars, building a healthier work environment, investing in Maine's economy, and inspiring others to take action.

Executive Order 13 (signed November 26, 2019), "An Order for State Agencies to Lead by Example Through Energy Efficiency, Renewable Energy, and Sustainability Measures," directs Maine agencies to lead by example by investing in energy efficiency, renewable energy, and emissions reductions; promoting health and sustainability in the workplace; and building resilient infrastructure.

The Executive Order also establishes a Lead by Example Leadership Committee, led by the Governor's Energy Office (GEO) and the Governor's Office of Policy Innovation and the Future (GOPIF) with representatives from the Department of Environmental Protection (DEP), Efficiency Maine Trust (EMT), Department of Administrative and Financial Services (DAFS), and Department of Transportation (DOT).

Together, the Leadership Committee prepared the first Lead By Example (LBE) report in 2021, generating a baseline of energy use and greenhouse gas emissions from state operations. This emissions baseline, based on the best available data from 2020, was used to establish the goal of reducing state operational emissions a further 30 percent from 2020 levels by 2030. This goal is aligned with statewide emissions reduction requirements contained in statute and reflected in *Maine Won't Wait*, the state's climate action plan. The first LBE report also established goals related to efficient buildings, clean transportation, waste reduction, and climate resilient infrastructure. Every two years, the state will report its annual energy use, sources, greenhouse gas emissions, and progress on our LBE plan to the Governor, the Legislature and the public.

This report is the state's second LBE report, and the first since targets were established in 2021. The report covers actions taken across state government in 2021 and 2022. This report updates the state's 2020 emissions baseline, using more comprehensive and precise data collected since our first report, and we report our emissions from 2022. We celebrate leadership across state agencies, and report on the status of ongoing activities. And we establish priorities for state action in the coming two years, focusing our efforts to meet or exceed our near-term targets.

This report also accelerates our ambition in the areas of green building and building energy efficiency. Global fossil fuel prices reached historic highs when Russia invaded Ukraine in early 2022. The invasion disrupted global fossil fuel markets, which were already under pressure from economic effects due to the COVID-19 pandemic. Exacerbated by Maine's over-reliance on fossil fuels for heating and New England's dependence on natural gas, our region has been distinctly vulnerable to these global market forces.

Beneficial electrification and building decarbonization are priorities in Maine. Our climate goals and the responsible stewardship of taxpayer dollars require leadership from the state to drive demand and build markets for large and small building retrofits statewide. That is why Governor Mills released a new Executive Order 5 (FY23/24)To Lead By Example in State Owned and Leased Buildings in partnership with this report. The Order commits the state to complying with at least the most recent building and energy code (International Energy Conservation Code 2021) and, in most cases, with the most recently adopted stretch code in new construction and major renovations; requires all future new construction and major renovations to have zero-emissions heating, cooling, and water heating sources and be code compliant; requires EV infrastructure readiness measures in certain public improvements at a level consistent with EV purchase requirements contained in 5 MRSA §1830; requires preference to be given to energy efficiency in future leased space procurements, as well as energy data and improvements to be incorporated into future and existing lease terms; directs DAFS Bureau of General Services (BGS) to develop criteria for advanced wood products and pilot their use in at least two new state projects; and directs BGS to develop a plan to reduce GHG emissions by at least 50% from existing state buildings while committing to at least a 25% reduction in Energy Use Intensity (EUI) across the portfolio, in the next 10 years. Together, the actions in this Executive Order implement the goals set out in the 2021 report, accelerate the state's leadership, and provide a pathway forward to statewide building decarbonization.

With recent and significant federal funding for energy efficiency, transportation and clean energy investments from the Bipartisan Infrastructure Law and the Inflation Reduction Act, there is ample opportunity for the state of Maine to continue to lead by example. We look forward to continuing to inspire action, innovation, and leadership consistent with our statewide climate goals and targets.

LEADING BY EXAMPLE: Leadership Committee

The Lead By Example Leadership Committee is led by the Governor's Energy Office (GEO) and the Governor's Office of Policy Innovation and the Future (GOPIF) with representatives from the Department of Environmental Protection (DEP), Efficiency Maine Trust (EMT), Department of Administrative and Financial Services (DAFS), and Maine Department of Transportation (MaineDOT). In 2022, the Leadership Committee met monthly and held 8 state agency webinars, providing a venue for agencies to learn from each other, to receive support and technical assistance, to identify and share LBE activities and opportunities, and to continue to work together to measure progress on our targets.

In the next 12 months, the state will hire a LBE program lead to continue to advance this important statewide work.

Each state agency has designated an internal LBE coordinator to work with their agencies to share information, document actions, and coordinate resources in support of this effort (see Appendix A).

In 2024, replicating a successful model at the Department of Corrections (DOC) and other state agencies, the Leadership Committee will support agency LBE coordinators to convene a **green team** at their agencies, comprised of participants from the Commissioner's office, facilities managers, transportation managers, procurement personnel, and other interested parties. Together, these teams will be responsible for:

- Ensuring agency participation in educational and technical assistance offered by the Leadership Committee
- Developing an agency-specific plan for LBE
- Filling out the annual LBE survey

Monthly State Agency Webinars (2022)

Funding Energy Efficiency Projects	February 28, 2022
Climate Vulnerability of State Assets and Workforce	March 28, 2022
EV Charging	April 25, 2022
Procuring Electric Vehicles	May 23, 2022
GOMaine: Promoting Carpooling and Active Transportation for State Employees	June 27, 2022
Clean Energy at State Agencies	August 22, 2022
Telework, Reducing Emissions, and Right Sizing Your Footprint	September 26, 2022
Establishing an Energy Baseline	November 28, 2022

State Greenhouse Gas Emissions

Executive Order 13 (2019) established a goal for state government to achieve greenhouse gas reductions consistent with the statewide mandate of 45 percent reduction from 1990 levels by 2030, and 80 percent by 2050. In the first LBE report, the state established a complementary target of achieving a 30 percent reduction in state emissions by 2030, based on a 2020 baseline. This target reflected the assumption that the state has achieved emissions reductions of 17.5% since 1990, consistent with statewide results, and leaving a further 30% to go.

The first LBE report used best available data to establish an emissions baseline of around 92,500 metric tons of greenhouse gas emissions (CO_2e) contributed by state operations in 2020.

In 2022, the Efficiency Maine Trust (EMT), in partnership with the DAFS Bureau of General Services (BGS), hired an energy management consultant to work with the state for two years to establish a comprehensive energy baseline for state owned buildings, and to track energy usage of state owned and leased space over time. Through the work of the consultant and comprehensive data collection over the last two years, we have refined the state's emissions baseline using corrected historical data, as well as developed a more robust account of buildings, transportation, and other emissions sources across state operations. In addition, further investigation discovered errors in the original 2020 transportation data and the prior report overcounted electricity usage, which we have since corrected. Our new 2020 emissions baseline, as explored below, is just below 80,000 metric tons of greenhouse gas emissions (CO_2e).

Emissions Baseline and State Operational Emissions

Over the past year, GEO and GOPIF worked closely with DAFS and EMT to collect energy usage data across owned and leased state facilities and the state fleet. The hire of a new energy manager in October 2022 streamlined data collection and allowed the state to (1) establish a corrected energy baseline for 2020, (2) obtain updated data on energy consumption in 2021 and 2022, and (3) create a triaged list of recommendations for reduction in emissions from state assets.

Figure 1 and **Figure 2** provide a high-level overview of energy consumption across the state's buildings and vehicles in 2020, 2021, and 2022. While electricity consumption has remained mostly consistent, consumption of fossil fuels such as heating oil, natural gas, motor gasoline, and on-road diesel have all increased from 2020 to 2022. The COVID pandemic reduced institutional fuel use in 2020 due to stay-at-home orders for state employees; 2022 usage is likely closer to our pre-pandemic baseline energy usage, though we will continue to use a 2020 baseline to measure our progress.

DEP's 2019 statewide emissions report shows a steady decline of statewide emissions, with emissions levels falling 25% in 2019 based on a 1990 baseline. However, there has been a 3.8% increase in the state's operational emissions in 2022 based on a 2020 baseline (**Figure 3**), which is at least partially attributable to operational conditions during COVID as compared to now. Emissions from buildings and facilities increased 2% between 2020 and 2022, driven by an increase in oil use. Transportation emissions increased by 1.8%, driven primarily by fuel consumption increases associated with a larger state fleet.

As **Figure 4** shows, nearly half of state operational emissions come from transportation; nearly a third from process fuels associated with heating and cooling our buildings; and the remainder from electricity generation associated with state electricity usage.

We expect future years of this program to achieve a reduction in state operational emissions, as policies are adopted which enable and reward greater leadership by state agencies – while saving taxpayer dollars.

FIGURE 1: MAINE STATE FACILITIES ENERGY USAGE (2020-2022)

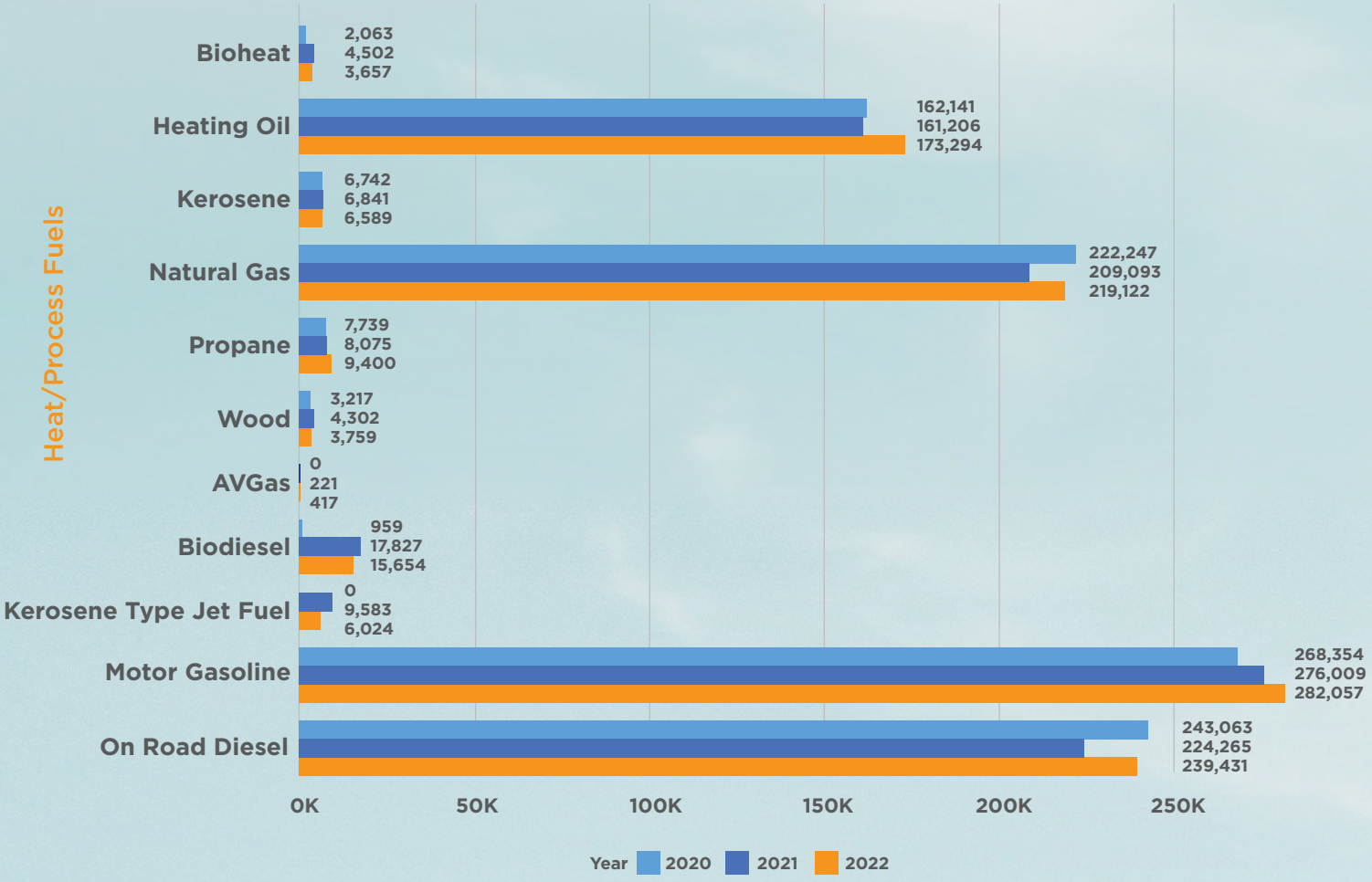


FIGURE 2: MAINE STATE FACILITIES ELECTRICITY USAGE (2020-2022)

FIGURE 3: GROSS MAINE STATE EMISSIONS (2020-2022)

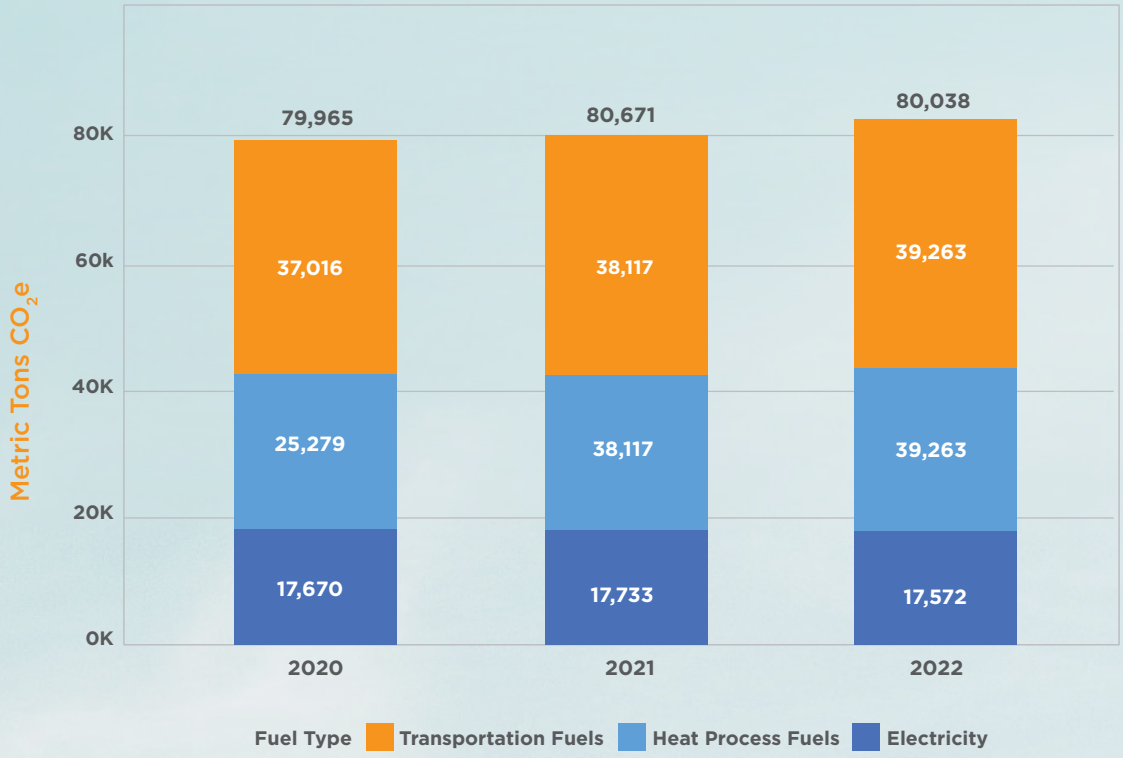
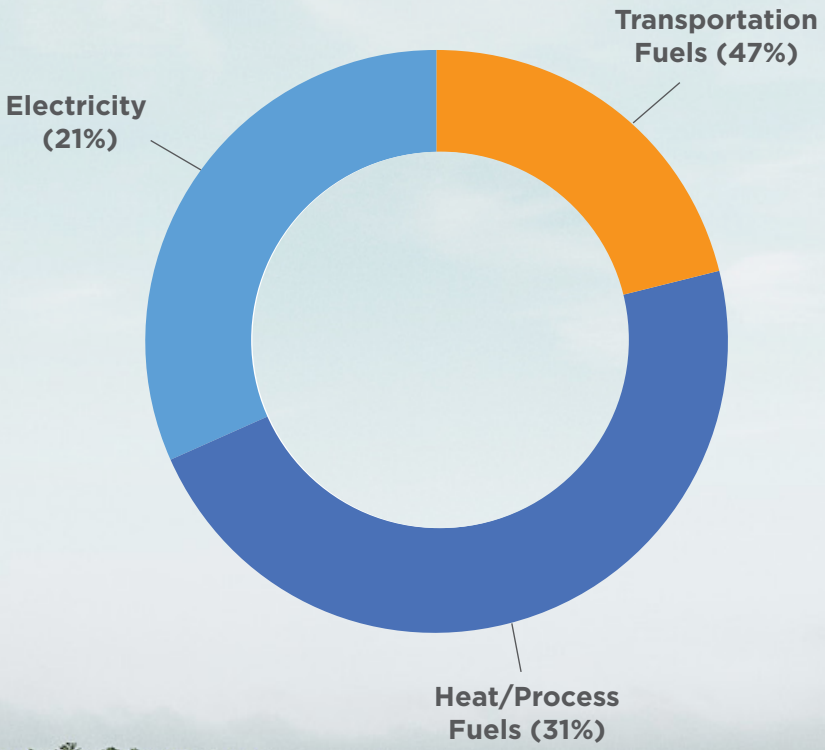


FIGURE 4: MAINE STATE EMISSIONS (2022)



Emissions from State facilities

The State of Maine uses three major energy sources in building operations: electricity, natural gas, and #2 heating oil. As compared to 2020, 2022 saw a 0.6% reduction in electric energy use, a 1.4% reduction in natural gas consumption, and a 6.9% increase in oil consumption.

Electric Energy Use

Small electric energy use reductions were driven in large part by facility changes that took place between 2020 and 2022, including the occupancy of the new Maine Correctional Center facility, a more efficient facility which replaced the prior facility built in 1900, and the installation of solar panels at the Long Creek correctional facility. In addition, two large state buildings (Ray Building, Cultural Building) were unoccupied in 2022 due to renovations.

These reductions were partially offset by increased electric energy use at the Augusta East campus, where a natural gas fired central heating plant was right-sized, resulting in an increase of grid-supplied electricity (with a commensurate reduction in natural gas use). In this renovation, very large boilers were replaced with 3 smaller boilers to "right size" boiler use, allowing shutdowns as needed, and resulting in higher electricity consumption. Additional increased electric energy use was due to a new Maine Army National Guard (MEARNG) readiness center in Bangor, increased occupancy of the Long Creek correctional facility after the completion of non-energy related renovations, and the installation of heat pumps at the Augusta Armory.

Natural Gas Use

Natural gas use is not widespread in state facilities outside of Augusta, due to limited natural gas distribution within the state. The decrease in natural gas use between 2020 and 2022 is associated with the occupancy of the new and more-efficient Maine Correctional Center facility and subsequent sunsetting of the older facility (both fired by natural gas); as well as the aforementioned heat pumps installed at the Augusta Armory, the decreased use of the central heating plant at the Augusta East campus, and vacancy of the Ray Building and Cultural Building. In addition, the Deering Building was electrified and was removed from the central East Campus boiler plant.

These decreases were partially offset by the new natural gas loads associated with the installation of a combined heat and power (CHP) unit at MEARNG in Bangor, a new MEARNG facility in Waterville, and the occupancy of new office space at the at the Augusta East campus (Greenlaw Building).

Oil Use

Unlike electricity and natural gas, oil use increased between 2020 and 2022. These increases were driven by Department of Correction (DOC) facilities,

Not All Fuels Are Equal

Emissions associated with various energy sources are a factor of both the magnitude of energy use, and the carbon dioxide equivalent (CO_2e) factor of a given fuel. Increases or decreases in fuels like oil have a greater impact on emissions than natural gas due to their higher CO_2e content. So, while oil made up 42% of total fuel energy use in 2022, it accounted for 49% of total fuel related emissions. Conversely natural gas, which accounts for 53% of total fuel energy use, only accounts for 44% of total fuel related emissions. To meet our greenhouse gas emissions reduction targets, large portions of the energy used in state facilities will need to be converted from higher emitting sources, like fossil fuels, to low carbon resources and electricity—a transition referred to as beneficial electrification—and at the same time, this electricity must increasingly come from cleaner generation sources.

which consume more than 50% of the total oil consumed by all state facilities. These DOC facilities are in areas without natural gas service, and rely on a mix of heating oil, propane, and wood for facility heating. Increased oil use at Mountain View Correctional Facility was due to a decrease in propane and wood use. Opening of a newly constructed Downeast Correctional Facility accounted for additional increases as compared to 2020.

The increased oil use at DOC facilities was mitigated by decreased use at 221 State Street, a state-owned facility with multiple occupants, due to a reduction in use and occupancy of the space; and through the installation of heat pumps at several facilities including the East Campus Deering Building and several MaineDOT facilities. However, many MaineDOT facilities continue to rely on oil for heating. The installation of heat pumps at existing facilities has demonstrated the energy and emissions reductions that can be achieved, and MaineDOT is continuing to install heat pumps, offsetting oil and other heating fuel in the process.

Emissions from State-Owned Transportation

Central Fleet Management (CFM), a division of DAFS, centrally procures, distributes, and disposes of passenger vehicles and light truck vehicles on behalf of many state agencies – with a few notable exceptions described below. In 2022, CFM managed 2304 light duty vehicles; of this fleet, 41 are battery electric or conventional hybrid vehicles (Figure 5 and 6).

In addition to CFM vehicles, there are approximately 850 medium- and heavy-duty vehicles (MHDV) in the state fleet, comprised of construction vehicles, delivery vans, snow plows, refuse trucks, school buses, utility pickup trucks, and other vehicles; not to mention a significant fleet from planes, boats, and off road vehicles (snow mobiles, ATVs). There are currently no electric MHDVs in the state fleet.

Box Trucks	4
Car	701
Motorcycle	1
SUV	213
Trucks: Light Duty	1111
Trucks: Medium Duty	70
Vans: Mini & Full	204
TOTAL	**2304**

Figure 5: state fleet vehicles owned by CFM in 2022

Battery Electric Vehicles (BEV)	17
Plug in Hybrid Electric Vehicles (PHEV)	1
Conventional Hybrids (ie Toyota Prius)	23
Internal Combustion Engine (ICE) Vehicles	2263
TOTAL:	2304

Figure 6: CFM vehicles by drivetrain 2022

Finally, the Department of Public Safety (DPS) independently manages a fleet of approximately 635 vehicles of various makes and models. The Maine State Police began a gradual shift of only a handful of hybrid vehicles in 2019 to all front-line vehicles becoming hybrid with the 2023 vehicle order. There are currently 29 hybrid vehicles in the fleet.

SUMMARY OF 2021 LEAD BY EXAMPLE TARGETS

BY 2022

- Relaunch GO Maine
- MaineDOT will promote a program and incentives to encourage state workers to share commuting options.
- Agencies may provide infrastructure for employees to store personal or shared bicycles, making short trips during the day more convenient.
- Establish a teleworking policy that considers lessons from the health emergency and allows feasible teleworking options.
- The state will set targets that lead to healthier workplaces and that reduce solid waste from state-owned facilities.

BY 2024

- Purchase 100% clean energy for state electricity usage.
- Maximize the use of state buildings and lands for clean energy generation, where practicable.

BY 2025

- At least 50% of newly purchased or leased light-duty state fleet vehicles will be ZEVs or PHEVs.
- The state will ensure the availability of adequate and coordinated charging infrastructure to meet this target.

TRANSPORTATION

CLEAN ENERGY AND EMISSONS

BUILDINGS AND ENERGY EFFICIENCY

BGS Augusta "Master Plan" Implementation:

- Prioritize modern HVAC upgrades, integration of renewables
- efficient building improvements,
- focusing on the most cost-effective options.

Construction of new buildings will:

- Prioritize highly-efficient building design and the use of modern, climate-friendly wood-based building materials
- Incorporate renewable energy, where possible
- Use advanced wood products, including cross-laminated timber (CLT) and other innovative options, with a focus on those produced in Maine

The state will develop more specific guidance for agencies to integrate climate risk management into asset construction and maintenance.

The Maine Climate Council's sea level rise projections will be taking into consideration for facility building and improvement.

BY 2023

BY 2030

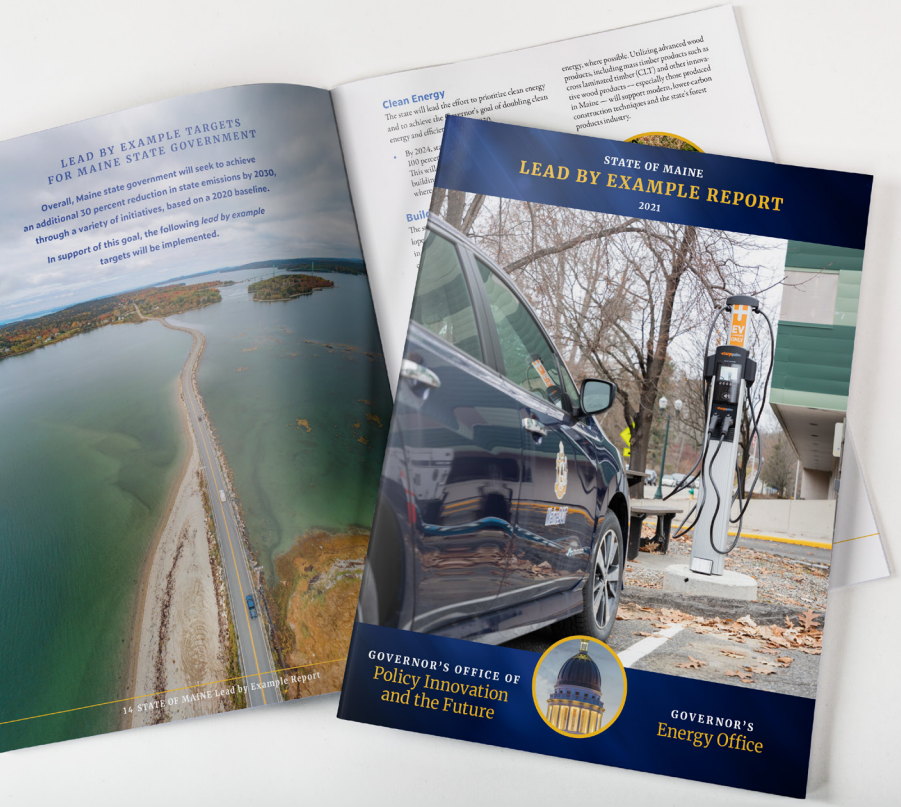
State institutions will purchase at least 20% of their food and food products from local producers.

100% of all newly purchased or leased light-duty state fleet vehicles will be ZEVs.

State government agencies will test new low and zero-emission technologies for medium and heavy-duty vehicles, setting future targets based on emerging technology options.

RESILIENCE

GREEN PROCUREMENT AND WASTE REDUCTION



Lead By Example Targets for Maine State Government

The state's first LBE report established targets to guide state action in support of our emissions reduction goals. Targets included action in the areas of clean energy, buildings and energy efficiency, transportation, resilient infrastructure, and green procurement and waste reduction.

PROGRESS SNAPSHOT

Clean Energy and Emissions

- 3.3% percent increase in state emissions in 2022 based on a 2020 baseline
- 51% clean energy[1] purchased for state electricity usage in 2022
- 284,356 kWh of solar energy produced by state owned solar installations[2] in 2022; this is enough electricity to power 43 average Maine houses for one year[2]

Buildings and Energy Efficiency

- More than 10 capital renovation projects to increase efficiency of state-owned buildings were completed or ongoing in 2022 (Appendix B)
- $87,000 VW settlement funds committed for state building efficiency retrofits

Clean Transportation

- GOMaine reduced over 1.5 million vehicle miles traveled (VMT) between its relaunch in April 2022 and December 31, 2022; nearly 20% of these VMT were reduced by State of Maine employees who are also members of GOMaine
- 31% of state of Maine employees are teleworking fulltime or parttime, avoiding over 400,000 commuting miles each week
- 5% of new vehicles purchased in 2022 (221) were battery electric (10) or plug in hybrid electric (1)
- 18 state properties have publicly accessible EV charging (44 total ports) (Appendix C)

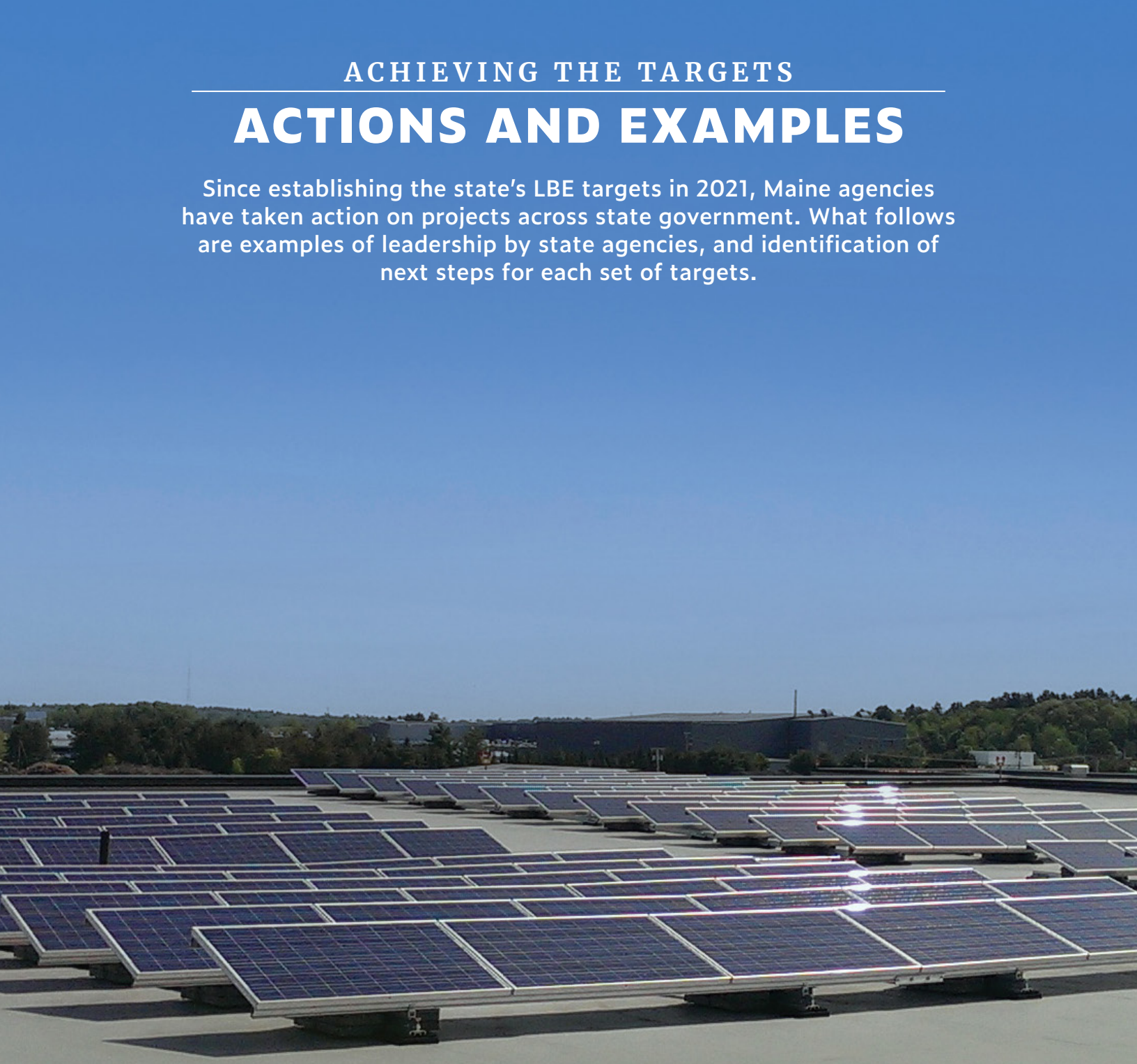
1 The state's energy supply was compliant with the statutory renewable portfolio standard requirements in 2022.

2 Blaine House: 24207 kWh (CY 2022); MEARNG: 149,769 kWh (CY 2022); DOC Downeast Correctional Facility: 110,380 kWh (CY 2022)

3 An average Maine household uses 6,600 kWh of electricity annually: https://www.maine.gov/energy/electricity-prices

ACTIONS AND EXAMPLES

Since establishing the state's LBE targets in 2021, Maine agencies have taken action on projects across state government. What follows are examples of leadership by state agencies, and identification of next steps for each set of targets.



CLEAN ENERGY LEAD BY EXAMPLE TARGETS

- **Purchase 100 percent clean energy for state electricity usage by 2024**
- **Maximize the use of state buildings and lands for clean energy generation, where practicable**

In February 2023, Governor Mills set a new goal of obtaining 100% of Maine's electricity from renewable sources by 2040 — 10 years earlier than her administration's previous goal. Mitigating and adapting to the impacts of climate change, and increasing renewable energy generation within the state, are priorities of the administration — reducing emissions, increasing energy reliability, creating clean energy jobs, and reducing the cost of energy for Maine people.

Action 1: By 2024, state government will purchase 100 percent clean energy for its electricity usage.

There are multiple pathways for Maine to achieve this target, including buying renewable energy certificates through a competitive electricity supplier, through bilateral contracts with a selected project(s), and through offsetting electricity needed through onsite clean energy generation. The state has entered into a Master Agreement with Competitive Energy Services (CES), a strategic energy consulting firm, to consider these options and structure the state's next electricity solicitation to meet this goal. In future years, Maine will meet this goal through an increasing portfolio of on-site generation and bilaterial contracts, continuing to lead by example.

Action 2: In addition to procuring clean energy, the state will consider opportunities to use state buildings and lands for clean energy generation, where practicable.

Developing state-owned renewable energy projects is a way to support the clean energy transition. At least three state agencies already generate renewable electricity on state-owned lands, producing enough solar electricity in 2022 to power 43 average Maine households for a year.

In 2022, state agencies continued to lead by example, initiating at least two other major solar projects:

- MaineDOT has installed solar arrays at three locations in Augusta: the Augusta Airport (in progress) and inside the I-95 interchanges at Exits 109 and 112 (complete). The arrays provide low-cost renewable energy to power both the Capital Complex and East Campus, and will produce over 8MW of electricity each year, reducing over $8 million in energy costs to the state over the next 20 years.

- MEARNG added 25 KW of additional solar PV at its Bangor facility, bringing the total amount of solar at that facility alone up to 68kW. This additional capacity came online in April 2023, and will produce approximately 25,000 kWh a year.

In addition, DOC, Department of Marine Resources (DMR), Department of Inland Fish and Wildlife (DIFW), and Department of Agriculture, Conservation, and Forestry (DACF) are at various stages of solar project development.

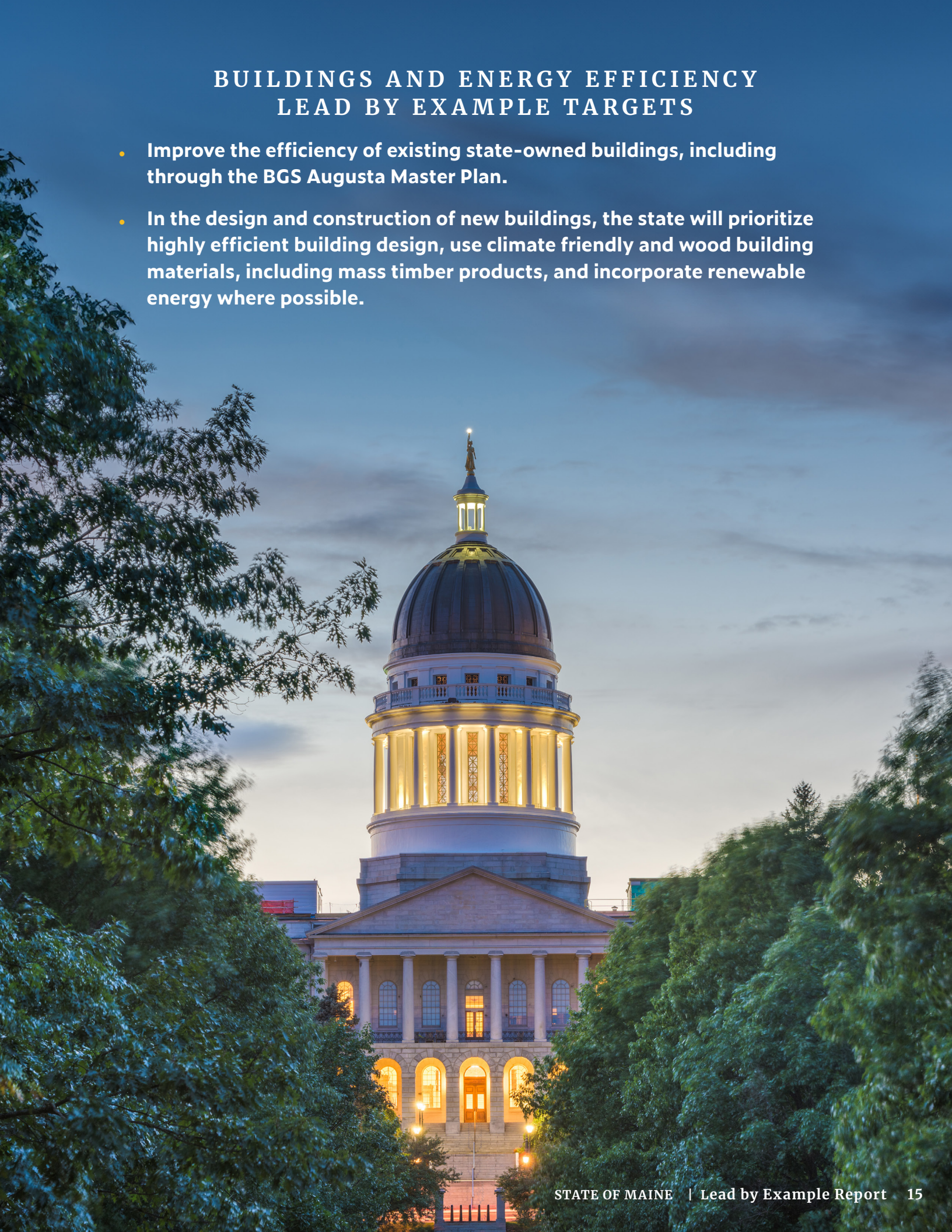
Next Steps

Both strategies, procurement and development of projects, are in alignment with LBE goals and strategies outlined in *Maine Won't Wait*. Further, significant federal funding is now available from the Inflation Reduction Act, providing tax credits as direct payments for new solar projects owned by tax exempt entities like states and local governments.

To streamline the process for state agencies to design and procure solar projects, DAFS will establish a pre-qualified vendor list (PQVL) for firms providing solar project design and installation; municipalities and other public energy users will be able to access the PQVL for their own projects. In addition, DAFS has created a process for state agencies to access solar energy procurement consulting services through an existing contract with CES. Together, this support will enable the state to continue to lead by example and make significant progress on meeting our clean energy targets.

BUILDINGS AND ENERGY EFFICIENCY LEAD BY EXAMPLE TARGETS

- **Improve the efficiency of existing state-owned buildings, including through the BGS Augusta Master Plan.**
- **In the design and construction of new buildings, the state will prioritize highly efficient building design, use climate friendly and wood building materials, including mass timber products, and incorporate renewable energy where possible.**



Heating, cooling, and lighting of buildings are responsible for almost 30% of Maine's greenhouse gas emissions. Maine state government can reduce greenhouse gases as well as costs by modernizing our buildings to use clean energy, increasing energy efficiency of our building stock, improving how buildings are managed, and utilizing lower-carbon building materials.

The Governor's new Executive Order to Lead By Example in State Owned and Leased Buildings accelerates the state's commitments towards building efficiency outcomes. The Order commits the state to complying with at least the most recent building and energy code (International Energy Conservation Code 2021) and, in most cases, with the most recently adopted stretch code in new construction and major renovations; requires all future new construction and major renovations to have zero-emissions heating, cooling, and water heating sources and be code compliant; requires EV infrastructure readiness measures in certain public improvements at a level consistent with EV purchase requirements contained in 5 MRSA §1830; requires preference to be given to energy efficiency in future leased space procurements, as well as energy data and improvements to be incorporated into future and existing lease terms; directs BGS to develop criteria for advanced wood products and pilot their use in at least two new state projects; and directs BGS to develop a plan to reduce GHG emissions by at least 50% from existing state buildings while committing to at least a 25% reduction in EUI across the portfolio in the next 10 years. Together, these measures provide critical support for state agencies to continue to lead by example.

Action 3: Improve the efficiency of existing state-owned buildings, including through the BGS Augusta Master Plan.

State agencies have undertaken many projects to improve the energy efficiency of state-owned buildings and building systems. These projects include:

- Installation of heat pumps at DEP, DOC, MaineDOT, MaineHousing, IFW, DACF, BGS, MEARNG, and Department of Health and Human Services (DHHS) facilities
- Boiler controls and other HVAC upgrades at DOC, DACF, BGS, MEARNG, and DHHS facilities
- Lighting conversions/retrofits at DOC, DHHS, BGS, and DMR facilities
- Envelope/insulation improvements at DHHS, MEARNG, and BGS-owned facilities
- Electrical pump upgrades at the DMR wet lab facility
- In addition, MEARNG, DOC, DPS, MaineDOT, Department of Education (DOE), and DHHS are at various stages of energy efficiency retrofits and improvements at other facilities statewide

The Augusta Area Master Plan is a 10-year plan created to provide for the smart and considered development of future state building needs. It identifies broad, guiding principles for the capital projects and maintenance work performed and creates

Ray Building Renovation

An extensive renovation is currently underway at the Ray Building, owned and managed by BGS. The renovation will include updates to all major buildings system including envelope, mechanical, electrical, fire suppression, and HVAC. The envelope improvements include replacing original windows, adding 10" of insulation to exterior walls, and increasing insulation in the attic. The walls will go from uninsulated to having an R-30 value. The roof will be insulated to an R-49 up from R-16, a significant energy saver. The new HVAC system for the Ray building will consist of high efficiency air-source Variable Refrigerant Flow (VRF) heat pumps, replacing a steam system fired by fossil fuels. The change from steam to heat pumps in addition to the other improvements is estimated to reduce the building's energy usage by over 50%. Renovations will be complete in early 2024.

a roadmap for implementing goals and objectives within project development. The proposed Master Plan, developed over the past two years with a diverse stakeholder team led by BGS and SMRT Architects & Engineers, incorporates LBE targets including improved energy efficiency, utilizing the most recent building codes, and reducing emissions. The proposed plan takes a holistic view of state buildings, reviews space needs, refreshes goals, and consider other factors to create a vision and pathway for decision makers to follow. The Plan makes specific commitments to energy efficient buildings and on-site renewable energy generation, reducing the collective carbon footprint of state space and saving taxpayer money. The plan will be adopted in 2024.

Action 4: In the design and construction of new buildings, the state will prioritize highly efficient building design, use climate friendly and wood building materials, including mass timber products, and incorporate renewable energy where possible.

In March 2023, the State of Maine, together with 11 other states, joined the Biden-Harris administration's Federal State Buy Clean Partnership, committing resources to expand collaboration and advance states' procurement and use of low-carbon construction materials. Working together with the U.S. Climate Alliance, Maine is actively exploring collective opportunities to procure building and construction materials with lower embodied carbon.

Several state agencies are considering new construction in coming years, and will work with BGS to procure efficient green buildings which comply with our LBE targets. Both DACF and IFW are in the early stages of considering new facilities and are working with members of the Leadership Committee to design and procure efficient buildings.

In 2021, MEARNG opened the New Northern Maine Readiness Center in Presque Isle, which included the installation of on-site renewable electricity generation (solar and combined heat and power) and highly efficient building envelope and HVAC systems controls.

Efficiency Maine Trust Lead By Example Initiative

The Efficiency Maine Trust (EMT) LBE Initiative provides financial and technical support for energy efficiency and clean energy investments to help accelerate the transition to net zero carbon in state government buildings. The first phase of the initiative is focused on beneficial electrification, targeting the replacement of existing fuel oil (i.e., heating oil and kerosene) and propane-based heating systems with electric heat pump systems. The initiative provides a cash incentive for 60% of the project costs up to $1,000,000. The initiative will also fund 50% of the cost of technical assistance up to $20,000, offsetting the costs of architectural and engineering (A&E) firms to develop bid solicitation documents. These incentives are supported by Volkswagen (VW) settlement funds.

To date, EMT has engaged with 12 different state agencies representing inquiries across more than 36 buildings. Based on a preliminary screening, seven of these agencies have been invited to apply for the LBE Initiative. As of January 2023, two agencies have been approved for a total of $32,123 in technical assistance funding to develop bid solicitation documents for four buildings. One agency has been awarded $55,294 to retrofit three buildings from oil-based heating systems to heat pump systems.

$3.6 million was originally allocated to this Initiative. In 2024, BGS will partner with EMT to allocate the remainder (at least $1.8 million) of these funds to projects involving major electrification and efficiency work at state owned facilities, developing procurement specifications for low-carbon new construction, installing EV chargers, and continuing to invest in energy management and long-term planning to meet state building emissions reduction targets as established in the new Executive Order.

Maine Army National Guard Bangor East Microgrid

Given the critical nature of their work, MEARNG has unique energy security requirements when it comes to energy efficiency and renewable energy at their facilities. These unique requirements lead MEARNG to prioritize on-site energy generation wherever possible, supporting continuous power generation during energy outages; while at the same time making significant efficiency investments to reduce the size of the electricity load that they need to generate at these same facilities. The first phase of the Bangor East Microgrid project, completed in September 2022, combined four buildings with a combined square footage of 168,000 sq feet on to one utility electric meter, allowing for the creation of a microgrid, sharing electricity generation and supply across these four facilities. The microgrid is powered by an existing 75 kW combined heat and power (CHP) unit as well as a new 35 kW CHP unit, and an existing 43 kW solar power unit as well as a new 25 kW solar power system (referenced above). The potential capacity of the microgrid is more than 160 kW of electricity generation, sufficient to provide the majority of the largest building's electric load for most of each day. In addition to these generation investments, the waste heat from the CHP units is used as the primary heating source of three buildings during fall and spring, supplemented with highly efficient boilers and heat pumps during heavy heating degree days.

Decarbonizing State Buildings in 2024

In 2024, BGS will lead the state in pursuing major renovations across state-owned facilities. Flagship projects will include:

- Design and construction of a new headquarters building for DIFW, featuring adaptive reuse of existing infrastructure, energy efficiency, clean energy, and clean transportation investments, the development of an outdoor classroom for wildlife and environmental education, and the use of structure cross laminated timber in design.
- Decarbonization of the Cultural Building, including its heating and ventilation systems, as well as increased energy efficiency and remediation of existing hazardous materials.
- Capping of the Dolby Landfill, acquired by the state in 2011, will reduce leachate flowing from the landfill by 5 million gallons per year, protecting adjacent water bodies.
- Upgraded windows, insulation, and ventilation at the Stone Buildings, a set of currently-unoccupied historic buildings.
- The Burton Cross Building will undergo renovations to improve energy efficiency and safety.
- The Ray Building will be fully renovated with electric heating and cooling, and undergo other extensive efficiency, envelope, and safety upgrades.
- The new Office of the Chief Medical Examiner will use significantly less fossil fuels than under conventional design, with electric primary heating and cooling. It will also be one of the first state buildings to consider design elements which reduce embodied carbon, using less cement and structural steel and high recycled content materials.

Next Steps

The state will continue to reduce emissions from state owned and leased buildings. This is especially important given the high and variable costs of petroleum-based fuels. And the state is continuing to monitor the opportunity of funding from the energy efficient commercial buildings tax deduction that was made permanent under IRA; through partnership with architects and designers, this credit can reduce the cost of efficiency improvements and green building at state facilities.

With the Governor's new Executive Order on buildings, the state will no longer construct buildings with fossil-fired heating, cooling, or water heating technology. In partnership with the executive order, the state will also join the federal Better Buildings Challenge, committing to a reduction of GHG from state owned buildings by 50% and an overall energy efficiency improvement of buildings by at least 25% over the next 10 years. This increased ambition reflects the burden of high and variable fuel costs driven by factors outside of Maine, as well as the potential to avoid "carbon lock-in" due to the long lifespan of new buildings constructed by the state.

The state will continue to improve its data and policy to support the transition of its existing building stock. In October 2022, working together with EMT, BGS hired an energy management consultant for 2 years who will establish energy baseline information for state owned buildings, create a database to track energy used in owned

and leased space, and establish a triaged list of potential projects to reduce energy costs. BGS recognizes the need for a permanent energy manager position, providing much needed support to state agencies, and is considering long-term options for funding. Energy consumption data with identification of priority projects will allow BGS to work with agencies and occupants of state owned and leased buildings to identify, prioritize, plan, and execute renovations.

BGS already includes green considerations in all building renovation projects where key systems are impacted, including HVAC, envelope, and windows. Generally, BGS looks to increase efficiency of equipment and install heat pumps for both heating and cooling to decrease reliance on, or to replace, fossil fired systems. Over the coming year, BGS will develop policy guidance documents for state agencies to implement the Governor's new Executive Order, including adopting procurement policies for low carbon materials and increasingly efficient buildings. To facilitate further consideration of building materials including cross-laminated timber, wood-based insulation, and other Maine-based wood products, DAFS will convene state architects and vendors to explore opportunities to incorporate these materials into building design with the goal of ultimately developing specifications for bid packages.

CLEAN TRANSPORTATION LEAD BY EXAMPLE TARGETS

- **Relaunch GoMaine and other programs that encourage shared commuting options and active transportation for state workers. This includes infrastructure for personal or shared bicycle usage during the day.**
- **By 2022, the state shall have a policy on teleworking.**
- **By 2025, a minimum of 50 percent of newly purchased or leased light-duty state fleet vehicles will be ZEVs or PHEVs. By 2030, 100 percent of all newly purchased or leased light-duty state fleet vehicles will be ZEVs. The state will ensure the availability of adequate and coordinated charging infrastructure to meet this target.**
- **State government agencies will pilot emerging low and zero emission technologies for medium and heavy-duty vehicles as new technologies emerge.**

As the largest source of statewide emissions, the state is taking steps to transition away from internal combustion engine vehicles and towards electric alternatives. This includes purchasing electric or hybrid vehicles, installing electric vehicle charging in places where state employees live and work, and encouraging teleworking, carpooling, public transportation, and active transportation as methods to reduce vehicle miles travelled.

Action 5: The state will encourage shared commuting options and active transportation for state workers. This includes relaunching GOMaine and providing infrastructure for personal or shared bicycle usage during the day.

GOMaine provides ride matching services for commuters and rewards for those participating. Members can find travel options like buses, carpools, vanpools, biking, or walking, and can record trips and earn rewards for reducing their transportation emissions. Additional benefits include provision of an "emergency ride home", a Multimodal Trip Planner and preferential parking at state facilities.

MaineDOT relaunched the GOMaine program in April 2022, reducing over 1.5 million vehicle miles traveled (VMT) before the end of the 2022 calendar year. Nearly 20% of these VMT were reduced by State of Maine employees who are also members of GOMaine**.** In the same timeframe, GOMaine helped reduce 646 tons of CO_2, the equivalent of avoiding more than 74,000 trips in individual occupancy personal vehicles.

200 Maine state employees are currently members of GOMaine; MaineDOT and DHHS employees have the largest level of participation. In addition to MaineDOT, DCED, MaineHousing, DHHS and DEP have all shared information encouraging employees to register for the program. And GOPIF and other agencies have offered GOMaine as a carpooling option for in-person conferences, allowing registrants to carpool with others and reduce emissions associated with state-run events.

State agencies are also taking a *healthy* interest in active transportation, including biking and walking. MaineHousing has an Actwell team that promotes wellness and exercise by all staff including monthly walking/step challenges. In June 2022, MaineDOT hosted an e-bike test ride event for nearly 30 State of Maine employees in Augusta; at least two MaineDOT employees regularly commute to work on e-bikes. Most state agencies offer outdoor bike racks at some of their locations, with MaineHousing also offering indoor bike storage;

Department of Education Teleworking

More than 80% of employees at the DOE are on permanent telework or hybrid work arrangements. To support this shift, the DOE has decreased their overall office footprint – even with an increase in positions – and has radically reconfigured their spaces. Employees that telework full time no longer have in-office desk space, employees with a hybrid schedule share a desk with another employee with an opposite schedule. The department set up 18 "hotel" spaces, 2 of which are cubicle offices with doors; employees with no assigned desk can book these spaces for a day if they need to come into the office. Lockers are also available to secure items while in the office for employees who do not have desk space or a reserved hotel space. DOE has also implemented new communications channels to support a majority remote workforce, including a biweekly commissioner's meeting, a weekly email with helpful snippets for all employees, a monthly email with helpful information for supervisors, and in-person informal lunches for those employees who miss the socialization part of their workday. Overall, DOE employees report that working remotely has increased their productivity, increased their availability due to less travel time, saved money on gas, and helped create a better work-life balance.

in addition, MaineDOT and the Department of Labor (DOL) have space for indoor e-bike charging. Finally, at least 11 state agencies have shower facilities for cyclists and runners to use.

Action 6: The state will develop a policy on teleworking that allows for teleworking options where feasible.

As the second largest employer in Maine, the state is in a position to be a leader in workplace innovation, environmental stewardship, and economic development. After many years of contemplating the viability and possibility of remote work for State employees, at the onset of the COVID-19 pandemic, a large portion of the state's workforce was moved to ad hoc telework, accelerating us past contemplation of telework to full implementation—including an evaluation of the impact of telework for both operations and employees. In August 2021, the Executive Branch Baseline Telework Policy was finalized, and over the course of the next year, both return-to-work and permanent teleworking arrangements were implemented across state government.

Nearly a third of state employees now telework on a regular basis, on average teleworking three days a week. Teleworking has led to a significant reduction in vehicle miles travelled, time spent commuting, and money spent on gas and other vehicle expenses by state employees. DAFS has developed a public telework dashboard, and a suite of internal reports that allow managers to help organize teleworking arrangements across their departments. State agencies are also changing the way they use space, creating more flexible hoteling and drop-in spaces to allow teleworking employees to seamlessly return to the office when needed, and investing in A/V systems that allow for hybrid meeting participation. BGS has also developed a suite of technical assistance to support state agencies in redesigning office spaces for hybrid work arrangements.

Action 7: The state will continue to electrify transportation, by transitioning its fleet to ZEVs and PHEVs and by piloting emerging low and zero emission technologies for medium and heavy-duty vehicles.

The state faces the same electric vehicle supply constraints which impact drivers across Maine. While national and global carmakers have pledged to go fully electric within the next decade, purchasing an electric vehicle in Maine remains challenging; in a recent round of state-led procurement, no Maine dealer offered an electric model for sale to the state.

Even with these challenges, multiple state agencies are pursuing cleaner vehicles and are utilizing EMT rebates when purchasing electric vehicles and charging infrastructure. Of the 2,300 light duty vehicles currently managed by CFM, 41 are battery electric or conventional hybrid vehicles. Many state agencies have expressed interest in acquiring electric vehicles as they become available, and DAFS has recently approved a new vehicle procurement policy that requires state agencies to seek a formal exemption when seeking to replace a CFM vehicle with a conventional internal combustion engine vehicle.

LEAD BY EXAMPLE: Fleet Electrification at the Department of Inland Fisheries and Wildlife

DIFW is Leading by Example with the electrification of its vehicle fleet. In 2022, the Department launched a pilot project with the purchase of two Ford F-150 Lightnings, replacing two gas-powered pickups. DIFW's F-150 Lightnings are being used in their Augusta and field offices to assess their suitability for travel to regional offices and local field work, particularly winter performance and range impacts from towing. The Department estimates that the switch will result in more than $1,500 annually in fuel savings.

While DOC has one electric transit van, the state has yet to pilot any medium or heavy-duty electric vehicles (MHDVs). There are approximately 850 MHDVs in the state fleet, comprised of construction vehicles, delivery vans, snow plows, refuse trucks, school buses, utility pickup trucks, and other vehicles; not to mention a significant fleet of planes, boats, and off road vehicles (snow mobiles, ATVs). MaineDOT has purchased one hybrid electric ferry and is committing to looking at hybrid and electric options for all future ferry replacements which are owned and managed by the state. Together with a variety of partners, the Maine Clean School Bus Program has supported the deployment of more than 30 electric school buses around the state. MaineDOT continues to explore federal funding opportunities to support the pilot of additional MHDVs across the state fleet.

Adequate charging infrastructure is necessary for state agencies to transition to a fully electric fleet. This includes a combination of fleet charging at state facilities, publicly accessible fast charging for those state vehicles which travel significant distances in a single day, and some at-home employee charging for those vehicles assigned to a specific state employee. Through funding from EMT, at least 18 state properties have currently been able to install publicly accessible EV charging (Appendix C); BGS is working with a consultant to study electric vehicle infrastructure needs associated with the Augusta campuses and will begin implementing this Augusta Charging Master Plan in 2024. Maine DOT, EMT, GOPIF, GEO, and others have been collaborating on a 5-year Plan for EV charging infrastructure, investing more than $25 million of state and federal funding to ensure a statewide network of fast charging along all of Maine's major travel routes. Finally, DAFS has convened a work group to develop a policy governing at-home charging of state-owned EVs, and successfully received funding in the FY 24/25 biennial budget to outfit all CFM vehicles with telematics, providing valuable route, operational, and charging data to facilitate cost reimbursement and savings calculations.

Next Steps

Significant federal funds are currently available to help green the state fleet. New federal clean vehicle tax credits, competitive grant programs, rural

LEAD BY EXAMPLE: Fleet Electrification at The Department of Public Safety

The DPS fleet is comprised of approximately 635 vehicles of various makes and models. Vehicles are deployed throughout DPS, including the Maine State Police, Office of the Fire Marshal, and the Communications Division.

The Maine State Police began a gradual shift of only a handful of hybrid vehicles in 2019 to all front-line vehicles becoming hybrid with the 2023 vehicle order. There are currently 29 hybrid vehicles in the fleet. DPS hopes to test and evaluate fully electric pursuit rated vehicles within the next year, or as soon as manufacturer development allows them to be available.

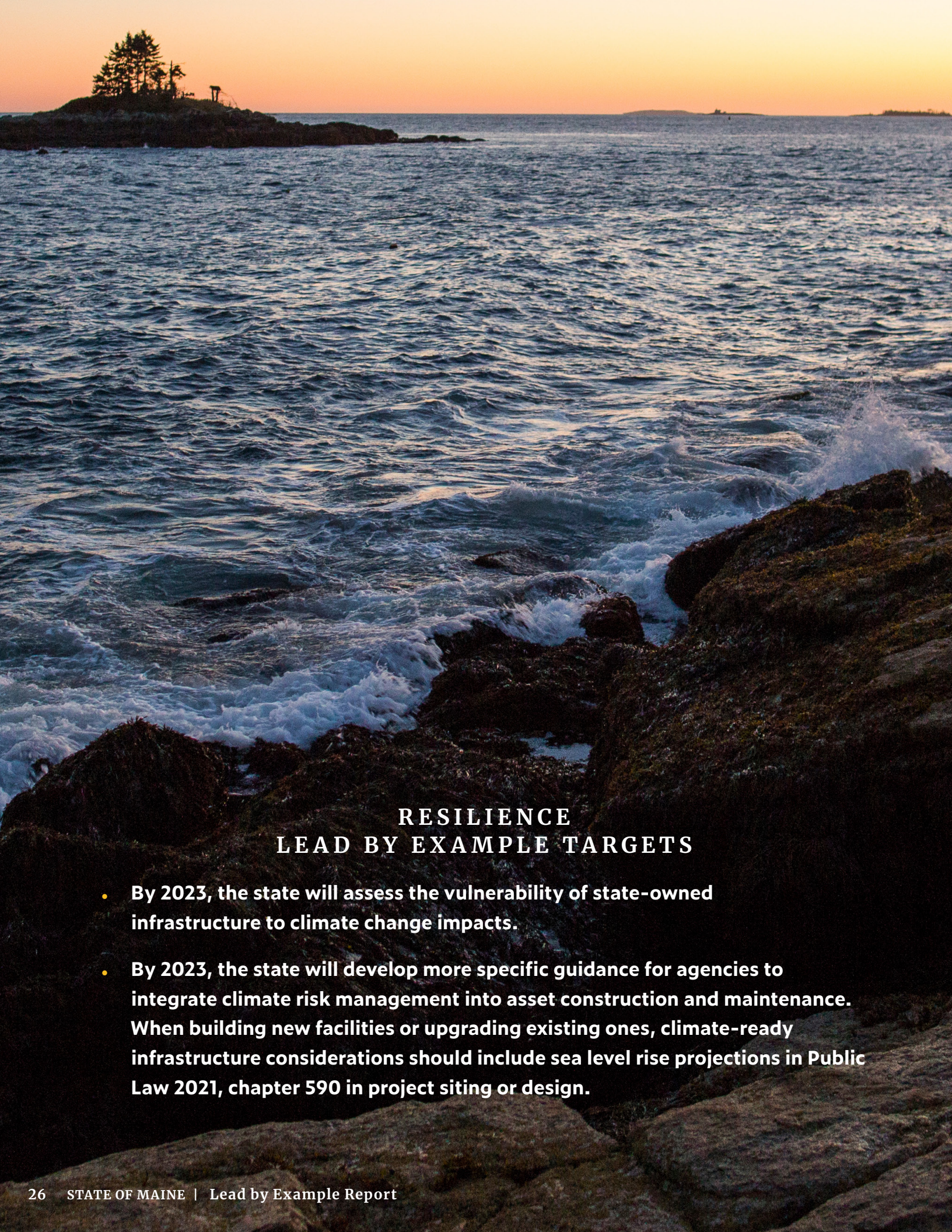
DPS has been piloting a telematics program with a limited number of State Police vehicles, providing valuable data including CO_2 emissions and fuel consumption. The data shows a significant savings in fuel between hybrid and gasoline-only powered engines. Data also indicates a significant reduction in CO_2 emissions with hybrid vehicles in this pilot program.

charging infrastructure funding, and other flexible funding designed to reduce transportation emissions can be used to help support electrification of both passenger vehicles and MHDVs.

The state is developing better data, clearer policy, new guidance, and additional education to help reach our goals. Once installed, telematics units promise to provide clear vehicle-by-vehicle data on operations, miles travelled, and fuel usage. At the same time, the state requires a comprehensive fleet transition plan to help plan for, fund, and acquire the number of vehicles and coordinated charging infrastructure to meet our 2025 and 2030 LBE targets. In the coming year, GEO and GOPIF will work with DAFS, CFM, and other partners to support this comprehensive planning effort. Each state agency must also take active steps to understand their fleet operations, and to educate drivers about the benefits and operations of EVs. For this reason, state agency green teams will include in their LBE planning efforts a plan for achieving LBE fleet transition goals. Finally, behavioral change remains a barrier to fleet electrification. Working together with EMT and other partners, CFM will host up to 6 EV ride and drive events at state facilities in the coming year, allowing employees and fleet managers to learn about and drive common EV models.

There is still potential to organize teleworking arrangements to achieve the dual promise of reducing vehicle emissions *while at the same time* reducing the state's building emissions footprint. In combination with adopting building energy management systems, coordinated teleworking schedules could reduce or eliminate in-person employees in a particular building or on a particular floor on any given day of the week, reducing the need to heat/cool/light that floor during traditional hours of operations for those buildings with building control systems. This type of coordination requires a holistic look across workers and departments, considering schedules, locations, and operational needs; the benefits are potentially large in terms of decreasing the state's overall building and energy footprint. DAFS will continue to support this work, helping agencies achieve the multiple benefits associated with teleworking. Finally, broadband internet access remains a barrier to teleworking in some parts of the state, a challenge being addressed by the Maine Connectivity Authority.

Maine must improve the climate readiness and resilience of state-owned infrastructure so that it serves Maine better under day-to-day conditions and functions reliably during emergencies. In addition, the state needs to understand the impacts of climate on its workforce, both directly and indirectly, during both climate emergencies and daily operations.



RESILIENCE
LEAD BY EXAMPLE TARGETS

- **By 2023, the state will assess the vulnerability of state-owned infrastructure to climate change impacts.**
- **By 2023, the state will develop more specific guidance for agencies to integrate climate risk management into asset construction and maintenance. When building new facilities or upgrading existing ones, climate-ready infrastructure considerations should include sea level rise projections in Public Law 2021, chapter 590 in project siting or design.**

Action 8: By 2023, the state will assess the vulnerability of state-owned infrastructure to climate change impacts.

GOPIF was awarded a Building Resilient Infrastructure and Communities (BRIC) grant from the Federal Emergency Management Agency (FEMA) for funding to "Assess Climate Vulnerability and Provide Climate-Ready Design Guidance", as recommended by *Maine Won't Wait*. This project includes a climate change vulnerability assessment of state-owned assets and certain critical private assets to provide an understanding of the climate hazards – including sea level rise – to which the assets are exposed, their susceptibility to damage or failure, and the corresponding consequences. This assessment will give particular attention to areas of the state where socially vulnerable communities and vulnerable state-owned assets overlap. The project will also develop a climate resilience tool that state agencies and municipalities can use to incorporate climate and sea level rise resilience into project planning.

In addition, some state agencies have regular practices to assess the vulnerability of their assets. MEMA's annual Threat and Hazard Identification Risk Analysis process assesses the risk and vulnerability of their facilities. In addition, MEMA is currently updating the state's Hazard Mitigation Plan, which allows the state to be eligible for FEMA Hazard Mitigation Assistance grants, guides state and federal stakeholders to assess, prepare for and address the risks, vulnerabilities, and capacities associated with mitigating natural hazards, and positions the state's counties and towns for mitigation plans, projects and grants. The updated plan will include an array of climate hazards such as flooding (both coastal and riverine), drought, wildfire, severe summer and winter weather, air quality, and algae blooms. DIFW has also conducted a review of public access boat launches and wildlife management areas, considering climate vulnerability of

LEAD BY EXAMPLE: Maine Department of Transportation

MaineDOT is under contract to conduct a Statewide Vulnerability Assessment of all state-managed transportation infrastructure assets. The Assessment will consider the sensitivity and adaptive capacity of the infrastructure to climate hazards, identify which infrastructure is most vulnerable, and determine the probability and consequence of failure. This information will be used to recommend actions and focus areas for infrastructure adaptation projects, saving money on future natural disaster events. The Assessment will be completed by the end of 2023, and its results and methods will be made publicly available to help municipalities and other entities assess the vulnerability of many different types of infrastructure.

This work builds on an earlier internal work by MaineDOT using the Federal Highway Administration's Vulnerability Assessment Scoring Tool (VAST), which was limited to coastal areas and was not replicable for infrastructure beyond transportation. VAST helped MaineDOT identify seven segments of road as particularly vulnerable to storm-related flooding and/or sea level rise, which are currently being addressed.

species and infrastructure vulnerability to climate induced changes such as flooding. MEARNG also completed an Installation Energy Water Plan that includes climate assessments for the key facilities.

Action 9: Develop more specific guidance for agencies to integrate climate risk management into asset construction and maintenance.

Agencies are taking steps to incorporate sea-level rise projections as well as provide them to communities. MaineDOT, acting on behalf of the state, was awarded a $1 million grant from the US Department of Commerce to develop a Maine Coastal Flood Risk Model (ME-CFRM) – a high-resolution, dynamic, and probabilistic model of current and future flood risk along the Maine coast. The model will integrate the Maine-based sea level rise projections in existing law with data about coastal storm events. Preliminary outputs from the model are expected to be available beginning in the spring of 2024, with final results by the fall of 2025. Products from the model will be made available across state government as well as in communities and regional planning organizations across the state.

In addition, the DACF Bureau of Public Lands (BPL) is factoring increased average temperatures and employee well-being into the design of park entrance booths, factoring intensifying storms with increased storm water into culvert and bridge designs, and factoring increased tidal action from storms into erosion prevention measures. DAFS incorporates climate challenges into the design of storm-related infrastructure at state facilities, DIFW is considering sea level rise and greater exposure to storm damage in the design of new facilities, and DMR is considering the role of climate change in forthcoming renovations.

Resilience at the DACF Bureau of Parks and Lands

BPL is actively managing for climate risks in ongoing infrastructure projects:

- BPL is working with the Portland Water District and DEP on a first of its kind living shoreline project at Sebago State Park. The project is using natural material (local tree limbs) to stabilize an eroding shoreline and mitigate increased wave damage from storms. Fluctuating water levels and severe winds have increased shoreline erosion at the park, diminishing the beach at the day use area. The wooden material is being designed, engineered, and placed to retain sand during wave action.
- BPL is pursuing an erosion control project at Roque Bluffs State Park to combat rising sea levels and a greater intensity of coastal storms. The project involves repairing a section of the existing wooden erosion control at the base of the deck and stairway leading to the ocean beach, allowing continued safe beach access following recent damage from a severe winter ocean storm.
- BPL manages more than 252 miles of dirt roads for public access and forest management. Forest landowners throughout Maine, including BPL, have experienced an increase in road and bridge failures in the past decade due to the increased frequency of high severity rainfall events. When constructing new roads or replacing existing stream crossings, BPL aims to use 'Stream Smart' principles of appropriate sizing, slope, and substrate to maximize road durability and enhance movement of fish and other aquatic organisms. Ongoing investments are intended to reduce costs and protect important aquatic habitats.

Next Steps

Over the next two years, GOPIF, DOT, MEMA and other partners will work to assess the vulnerability of state-owned infrastructure to climate change, and to develop a climate resilience tool that state agencies and municipalities can use to incorporate climate and sea level rise resilience into project planning. At the same time, in partnership with GOPIF, BGS will develop guidance for the consideration of climate hazards in new construction and renovation of state-owned buildings, as well as guidance for new or renewed leased spaces. Finally, DAFS (Bureau of Human Resources) will work with MEMA, BGS, MECDC, DOT and others to understand and assess the impact of climate change on the state's workforce.

GREEN PROCUREMENT AND WASTE REDUCTION LEAD BY EXAMPLE TARGETS

- **By 2025, state institutions will purchase at least 20 percent of their food and food products from local producers.**
- **By 2023, the state will set targets that lead to healthier workplaces and that reduce solid waste from state-owned facilities.**

The state is committed to supporting local food producers and strengthening Maine's food systems, contributing to a reduction in greenhouse gases and supporting Maine communities. At the same time, state government can lead by example in reducing, reusing, recycling and replacing wasteful and potentially harmful materials in the workplace.

Action 10: By 2025, state institutions will purchase 20 percent of their food and food products from local producers.

The State of Maine purchases food for trainings and conferences, residents of correctional facilities, veterans homes, and psychiatric care facilities, Education in Unorganized Territories schools, and a limited number of cafeterias in state-owned office buildings. Most of this food is purchased through 3rd party vendors, many of whom do not yet have a contractual obligation to provide data on the source of their ingredients nor to purchase home-grown foods.

However, some state agencies and vendors are leading by example in procuring and growing their own food:

- DACF is leading the tracking and implementation of Maine's climate-related local food purchasing goals. Through a position called the Institutional Market Development Coordinator in the Department of Agricultural Resource Development, DACF is working to develop a comprehensive food systems picture and improve future data reliability. DACF also purchases local food for its annual Agriculture trade show, highlights work on local food procurement at various trainings and events, and leads conversations about local food procurement with other departments.

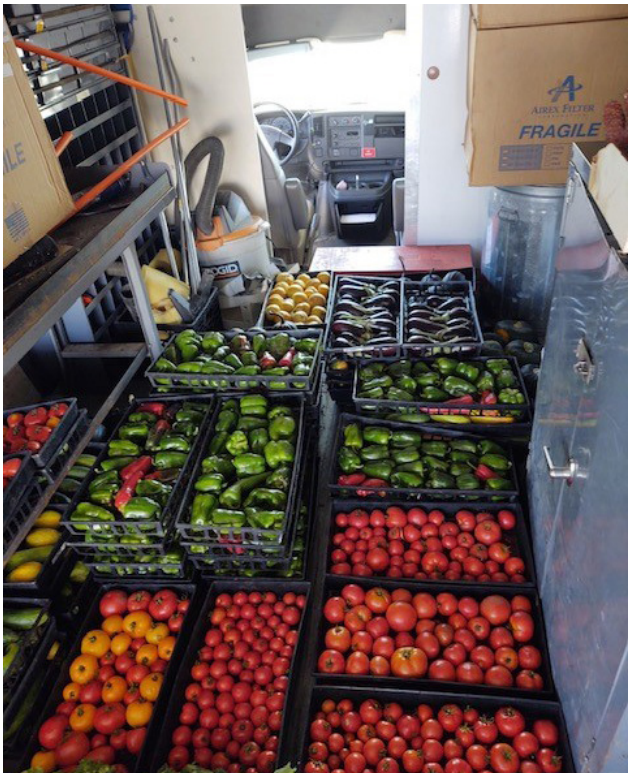
- Maine correctional facilities are working towards an overall goal of 20% Maine-sourced food by 2025. Today, they typically procure between 10–30% of their food from Maine food producers, and have implemented a research program and new menu designed to reduce overall food waste. DOC also produced over 300,000 lbs. of compost and donated over 20,000 lbs. of food grown at correctional facilities to the community in 2022.

- In Fiscal Year 2022, $375,000 was spent toward buying local food for public schools, including $125,000 from the Local Food Fund.

- Last year, MEMA purchased food only from local vendors for its major annual event, the Maine Partners in Emergency Preparedness Conference.

- Sysco, a major State food vendor, recently reported that nearly 70% of the dairy products sold to the state are sourced from companies in the state.

Over the next year, DAFS, in consultation with DACF, will request data on local food purchased through existing vendors (and grown on site, in the case of DOC), and will develop contract language requiring at least 20% of food provided by vendors to the state to be local by 2025.



Harvest donation from Maine State Prison

Action 11: By 2023, the state will set targets that lead to healthier workplaces and that reduce solid waste from government facilities.

Title 38 §2137 requires agencies to recycle and reduce the amount of waste generated during agency operations. For recycling, each state agency is required to establish and implement a source separation and collection program for recyclable materials produced in agency operations, including, at a minimum, high grade paper and corrugated paper. For waste reduction, state agencies are required to establish and implement a waste reduction program for materials used during agency operations. DAFS is responsible for assessing the status of recycling efforts undertaken directly by the state, evaluating existing programs, and developing new programs for recycling where necessary.

Initial assessments about the current state of recycling efforts suggest that most agencies have an in-house recycling program, with the highest percentage recycling paper and cardboard; returnable bottles and cans are also recycled in many locations, though other plastic and glass is generally not recyclable in state owned facilities. Besides DOC, DEP is the only state agency with a food waste composting program. Most agencies need additional financial, logistical, and educational resources to expand their efforts. Additional waste reduction efforts include:

- MaineHousing has adopted a paperless filing system and installed water conserving sinks and toilets to minimize wastewater generation.
- By adopting electronic signature protocol, DOE has helped reduce their paper waste by at least 41 bags annually.
- DACF has instituted battery recycling at several facilities, and several programs have implemented online application, billing, and building permit processes, reducing paper waste.

In 2022, the State of Maine joined the Northeast Recycling Council (NERC) and Association of Plastic Recyclers' Government Demand program as a Champion, committing to purchasing plastic items with recycled content over the course of the year and reporting those purchases to NERC. In addition, the DAFS procurement team began developing guidance to assist agencies in green procurement, exploring opportunities to shift existing commodity contracts towards more sustainable materials.

State agencies are leading by example by reducing waste and purchasing environmentally-friendly materials:

- MaineDOT is reducing single used items used at catering events; MaineHousing has provided reusable items for staff mealtimes.
- DOC procures exclusively non-toxic cleaning supplies and recycled content paper towels.
- DOE aggregated supplies from across multiple offices, creating a new central supply closet and ordering system to ensure that existing resources are used prior to new procurement occurring. This centralized system has significantly limited procurement of new items.
- DACF is investigating multiple environmentally-friendly products, including non-PFAS containing wildfire gear, cellulosic insulation products, and other equipment.

- MaineDOT adopted a statewide initiative to replace standard fluorescent lights with LEDs in more than 100 of their buildings. In addition to achieving energy savings, the effort has resulted in a drastic reduction in universal hazardous waste being transported off site from their facilities. They also implemented a statewide used oil reuse program focusing on the collection, storage and reuse of used motor and hydraulic oils for supplemental heating purposes; used oil is no longer shipped off site for disposal. Finally, MaineDOT has transitioned to environmentally friendly products, including replacing petroleum based parts washers with aqueous-based parts washers, eliminating the generation of hazardous waste associated with parts washers; and replacing lead-based paint on bridges with a zinc-oxide paint system, which works well to minimize steel corrosion yet will also pay dividends in the future as paint removed from the structure will not be hazardous.

- MEARNG performs solid waste assessments every five years, evaluating dumpster fullness, tracking recycling receipts, and reporting quarterly to their federal Army counterparts.

Next Steps

Over the next two years, DAFS – in partnership with other agencies – will ensure the adoption of comprehensive recycling programs at all state facilities. They will additionally work to procure composting services for those buildings with sufficient in-person attendance. The procurement office will adopt additional green procurement guidance, and will work to increase environmentally-friendly purchasing across the state's largest commodity contracts.

Statewide and as part of the next climate planning process, DEP will embark on an analysis of Maine's waste sector emissions impacts, opportunities and policy options that will identify options for to reduce waste and associated emissions and identify cost-effective options for generating clean energy by the waste sector. This will include a food loss and waste assessment, including waste generated in the commercial, residential, and institutional sectors, and an assessment of the current food waste infrastructure and future policy options to improve the recovery of surplus food generated across the state.

CONCLUSION: ACCELERATING ACTION ACROSS STATE GOVERNMENT

In preparing this report, a survey of agency LBE Coordinators surfaced enthusiasm for these opportunities but also several important challenges to implementing lead by example initiatives. Agencies need clear implementation guidance to help with managing for climate risk; new procurement contracts to help them buy clean and carbon friendly products; a champion on their leadership teams to support LBE priorities; and additional staff and financial support to contribute to this important work.

Together across state agencies – and with external partners, including the U.S. Climate Alliance, the National Association of State Purchasing Officials, and expert technical assistance from EMT – the state will continue to seek creative solutions to overcome these challenges. These solutions include:

- Within the next year, GOPIF and GEO will jointly hire a Lead By Example program lead. This lead will continue to support educational efforts, provide technical assistance directly to state agencies, and will work with agency LBE green teams to prepare their agency specific plans for leading by example.

- The LBE Leadership Committee will support each agency to establish a green team, comprised of participants from the Commissioner's office, facilities managers, transportation managers, procurement personnel, and other interested parties. Together, these teams will develop a plan to achieve lead by example targets, drawing on the specific circumstances, priorities, abilities, and enthusiasm of their agencies.

- The LBE Leadership Committee will continue to provide coordinated and centralized support of this initiative, focusing on developing and promulgating clear guidance addressing waste reduction, clean energy procurement, green procurement, EV charging and purchasing, and climate resilience of state-owned facilities. The Leadership Committee will also work to identify opportunities for partnership with the legislature, include the opportunity to advance enabling legislation in support of this body of work.

Every two years, the state will continue to report on our efforts. In future years, we will work to align reporting timelines with agency calendars, including evaluating a potential shift towards collecting fiscal year vs calendar year data.

By leading by example, Maine state government can help meet our state's ambitious climate goals while saving taxpayer dollars, building a healthier work environment, investing in Maine's economy, creating jobs, and inspiring others to take climate action. And while this report is focused on state infrastructure and operations, this work will create opportunities to collaborate with other entities such as school districts, municipalities, and other large institutions like hospitals and the state's higher education systems.

We commend Maine's agencies for starting this important work and leading by example.

APPENDIX A:
STATE AGENCY LEAD BY EXAMPLE COORDINATORS

Agency	Lead By Example Coordinator	Email
DACF	Randy Charette, Deputy Commissioner	randy.charette@maine.gov
DAFS	Bill Longfellow, Director of BGS	William.longfellow@maine.gov
DECD	Denise Garland, Deputy Commissioner	Denise.Garland@maine.gov
DEP	Julie Churchill, Director of Innovation and Assistance	julie.churchill@maine.gov
DHHS	Martha Kluzak, Director of Facilities Management	Martha.kluzak@maine.gov
DIFW	Corinne Michaud-LeBlanc, Climate Coordinator	Corinne.L.Michaud-LeBlanc@maine.gov
DMR	Meredith Mendelson, Deputy Commissioner	Meredith.Mendelson@maine.gov
DOC	Gary LaPlante, Director of Operations	Gary.LaPlante@maine.gov
DOE	Jessica Nixon, Chief of Staff and Operations	jessica.nixon@maine.gov
DOL	Todd Cummings, Director of Facilities Services	todd.cummings@maine.gov
DOT	Taylor LaBrecque, Resource Management Coordinator	taylor.s.labrecque@maine.gov
DPS	Derek Gorneau, Assistant to the Commissioner	derek.gorneau@maine.gov
DVEM/MEARNG	Alan Ballard, Energy Manager	alan.j.ballard.nfg@army.mil
MaineHousing	Jason Stonier, Operations Manager	jstonier@mainehousing.org
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PFR	Joan Cohen, Deputy to the Commissioner	Joan.Cohen@maine.gov

APPENDIX B: BUILDING RENOVATION PROJECTS THAT INCREASED EFFICIENCY (COMPLETED OR ONGOING IN 2022)

3 major renovations with energy efficiency components (envelope improvements, equipment and control upgrades) were completed in calendar 2022: Smith/Merrill Roof Replacement, Cross State Office Building HVAC Upgrades, and 10 Water Street HVAC Upgrades.

BGS includes green considerations in all building related projects where key systems are impacted, including heating, ventilation, AC, envelope, and windows. BGS looks to increase efficiency of the equipment, install heat pumps for both heating and cooling to decrease reliance on or to replace fossil fired systems. BGS also continues to replace older light fixtures with LEDs in state buildings. The below list includes projects that were ongoing as of the end of 2022.

- Bureau of Motor Vehicle—HVAC upgrades
- Cultural Building—Abatement, Mechanical Upgrades, & Envelope Upgrades
- Capital Complex EV Charging Stations Master Planning
- Crime Lab—HVAC Upgrades
- Criminal Justice Academy—Envelope repairs and improvements
- Cross State Office Building—Envelope Upgrades
- Greenlaw Building —Renovation (MGFA)
- Nash, Daschlager and McLean—Envelope restoration and window restoration
- Office of the Chief Medical Examiner—Electrification design
- Ray Building—Renovation (MGFA)
- Smith Merrill—Window Replacement and new roof, insulation

APPENDIX C:
STATE AGENCY EV CHARGING LOCATIONS

Agency Name	No. of plugs	Address	City
DEP	2	312 Canco Rd	Portland
DEP	4	East Campus, Arsenal St (Tyson Dr.)	Augusta
DAFS	4	93 Sewall St	Augusta
DEP	2	106 Hogan Rd, Suite 6	Bangor
DOT	2	24 Child Street	Augusta
DOT	2	66 Industrial Drive	Augusta
BMV	2	101 Hospital St	Augusta
DMR	4	194 McKown Point Rd	Boothbay
DOT	2	517A Main St	Rockland
DOT	2	41 Rice St	Presque Isle
DOC	2	358 Main St	Thomaston
DOC	4	17 Mallison Falls Rd	Windham
DOT	2	219 Hogan Rd	Bangor
DOT	2	51 Pleasant Hill Rd	Scarborough
DOT	2	932 US Route 2	Wilton
BMV	2	396 Griffin Road	Bangor
BMV	2	19 Anthony Ave.	Augusta
MEARNG	2	194 Winthrop Street	Augusta

APPENDIX D:
STATE AGENCY ACRONYMS USED IN THIS REPORT

List of State Agency Acronyms used in this report	
BGS	Bureau of General Services (part of DAFS)
BMV	Bureau of Motor Vehicles
ME CDC	Maine Center for Disease Control and Prevention (we do not reference the US CDC in this document)
DACF	Department of Agriculture, Conservation, and Forestry
DAFS	Department of Administrative and Financial Services
DECD	Department of Economic and Community Development
DEP	Department of Environmental Protection
DHHS	Department of Health and Human Services
DMR	Department of Marine Resources
DOE	Department of Education
DOL	Department of Labor
DPS	Department of Public Safety
DVEM	Department of Veterans & Emergency Management
EMT	Efficiency Maine Trust
GEO	Governor's Energy Office
GOPIF	Governor's Office of Policy Innovation and the Future
DIFW	Department of Inland Fisheries & Wildlife
MaineDOT	Department of Transportation
MaineHousing	Maine State Housing Authority
MEARNG	Maine Army National Guard
MEMA	Maine Emergency Management Agency
PFR	Department of Professional & Financial Regulation

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