
GOVERNOR'S
Energy Office
Dan Burgess, Director

CLIMATE COUNCIL GOALS

12.01.20
Climate Action Plan Delivered

ACHIEVE STATE CARBON NEUTRALITY BY 2045

REDUCE MAINE'S GREENHOUSE GAS EMISSIONS BY TARGETS OUTLINED IN STATE LAW

45%
BELOW 1990 LEVELS BY 2030

80%
BELOW 1990 LEVELS BY 2050

ENSURE MAINE PEOPLE, INDUSTRIES, AND COMMUNITIES ARE RESILIENT TO THE IMPACTS OF CLIMATE CHANGE.

RENEWABLE PORTFOLIO STANDARD LD 1494

Increased RPS of 80% by 2030

Goal of 100% renewable power by 2050

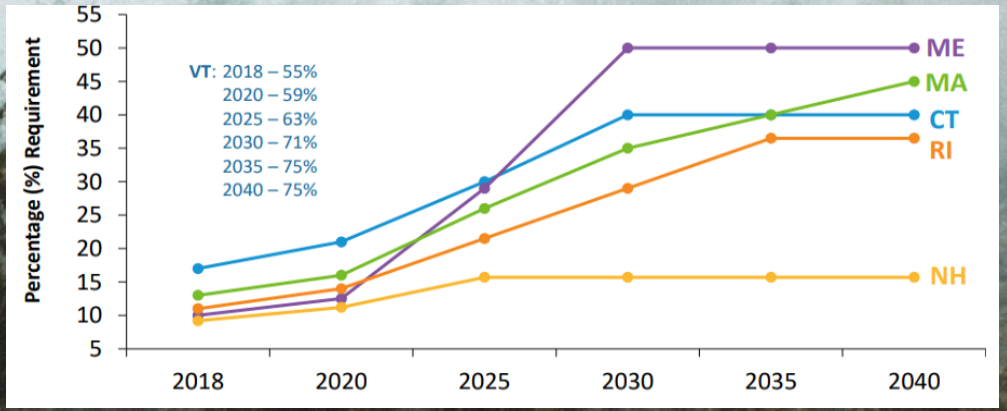
SOLAR & DISTRIBUTED GENERATION LD 1711

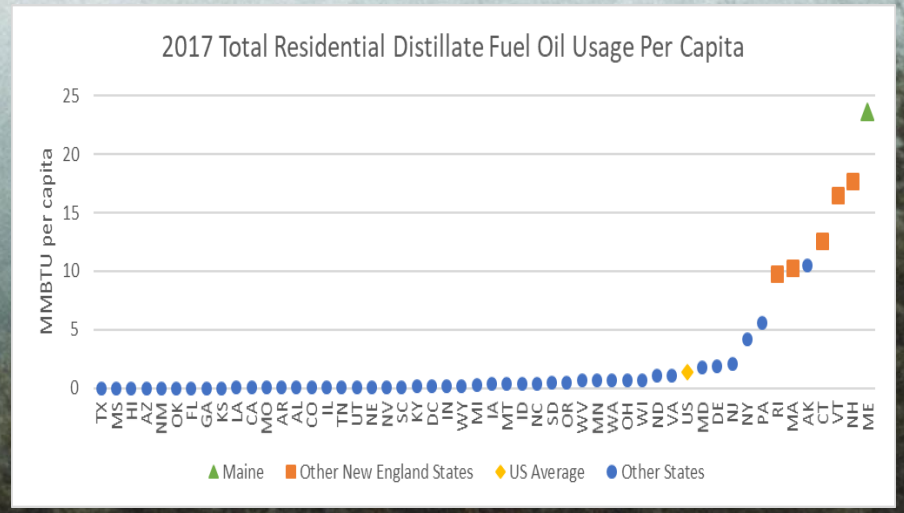
Incentivizes at least 375 MW of distributed generation

Encourages small scale and community solar projects

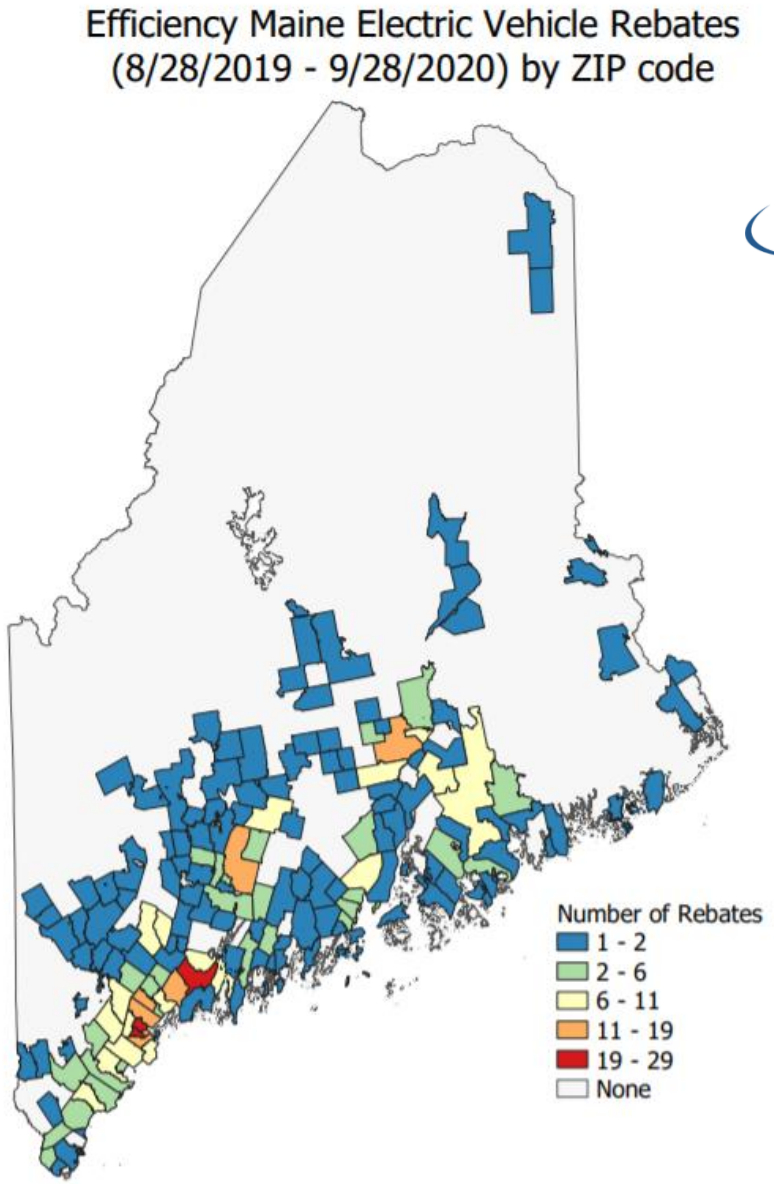
HEATING

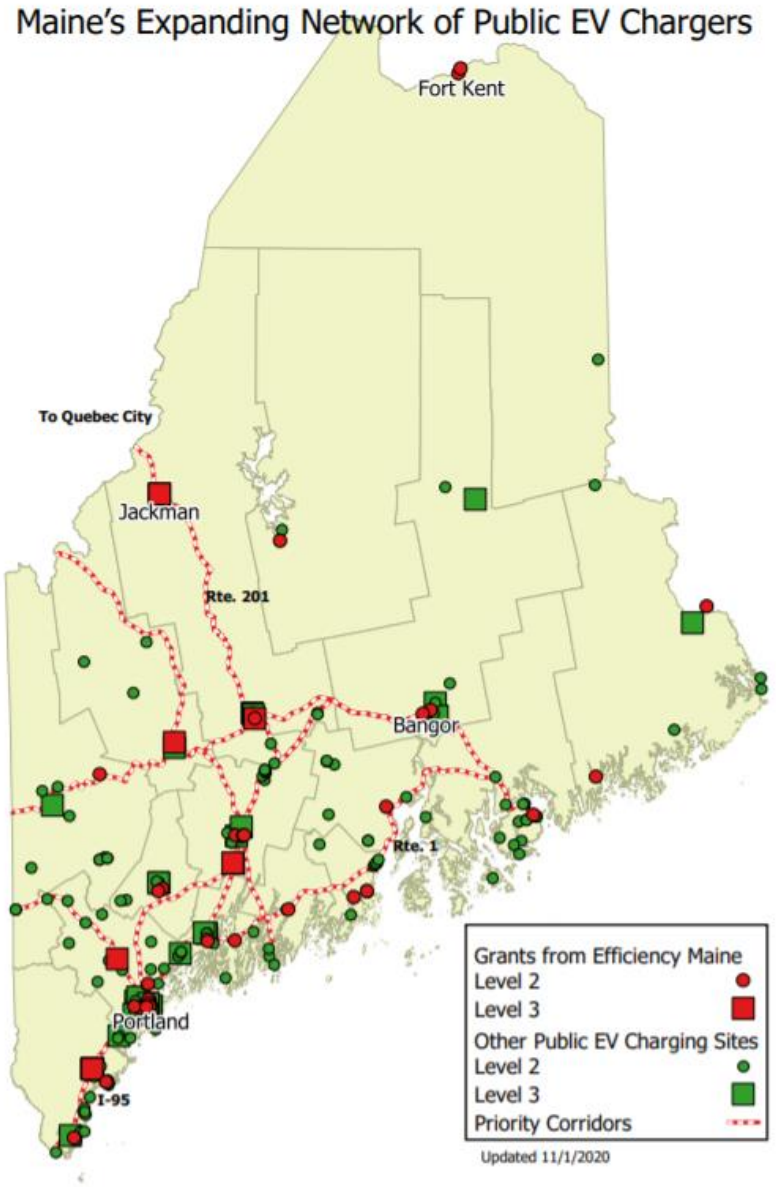
Initiative to install 100,000 new heat pumps by 2025 with a focus on low-income residents



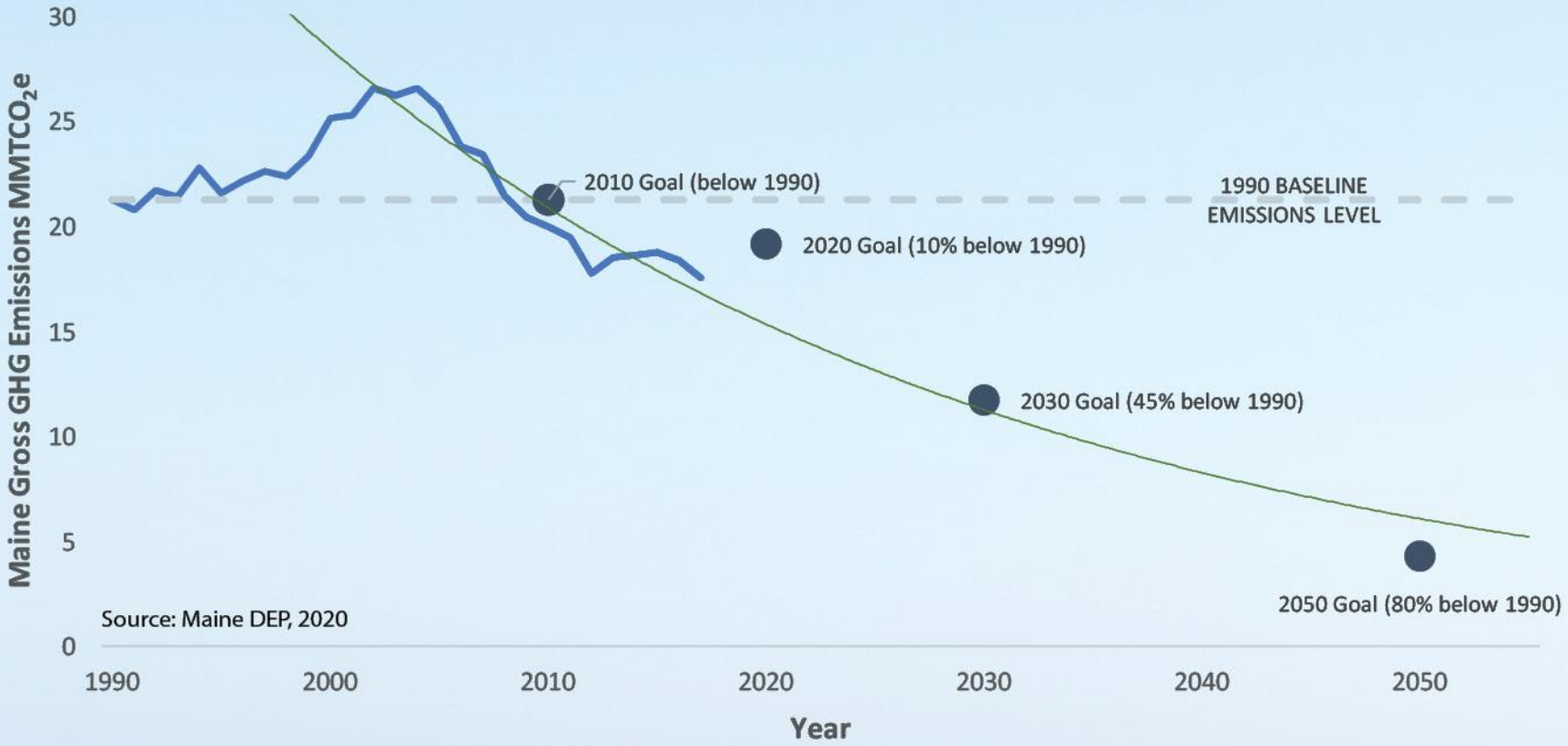


Electric Vehicle Programs

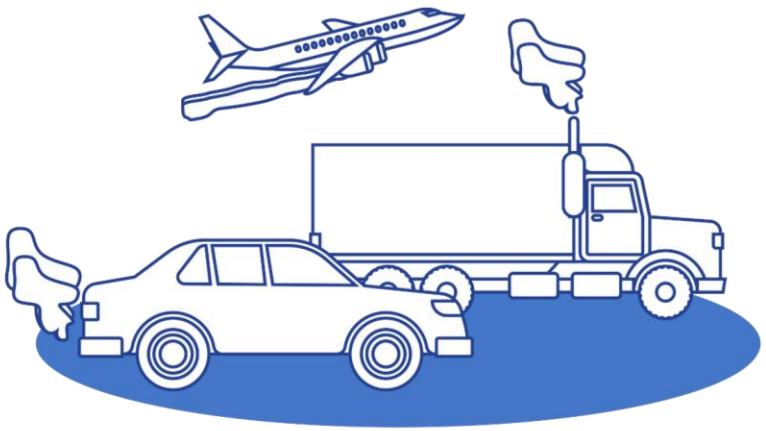




MAINE GREENHOUSE GAS (GHG) EMISSIONS AND REDUCTIONS GOALS



Exponential fit line is approximate path emission reductions might take to meet targets



54%

19%

11%

9%

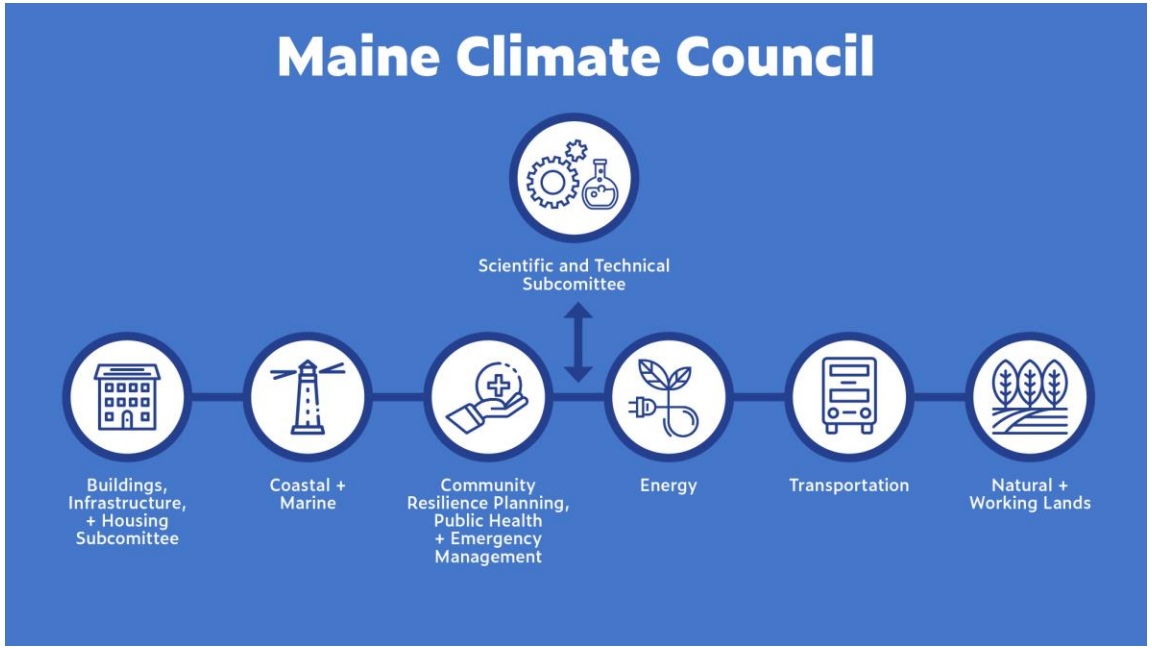
7%

TRANSPORTATION · RESIDENTIAL · COMMERCIAL · INDUSTRIAL · ELECTRIC POWER

Data source: Maine Department of Environmental Protection 8th Biennial Greenhouse Gas Emissions Report

Maine Climate Action Plan Goals

- Reduce Maine's Greenhouse Gas Emissions
- Avoid the Impacts and Costs of Inaction
- Foster Economic Opportunity and Prosperity
- Advance Equity through Maine's Climate Response



Maine's 8 Climate Action Strategies

A. Embrace the Future of Transportation in Maine

D. Grow Maine's Clean Energy Economy and Good Jobs

G. Invest in Climate-Ready Infrastructure

B. Modernize Maine's Buildings

E. Protect Maine's Environment and Working Lands and Waters, Increase Carbon Sequestration

H. Engage People and Communities in Climate Impacts and Program Opportunities

C. Reduce Carbon Emissions the Energy and Industrial Sectors through Clean Energy Innovation

F. Build Healthy and Resilient Communities

Bring the Future of Transportation to Maine

Actions:

- Increase electric vehicle (EV) use
- Reduce emissions from current gas and diesel engines
- Reduce Vehicle Miles Traveled
- Explore funding options for transportation needs & emissions reductions

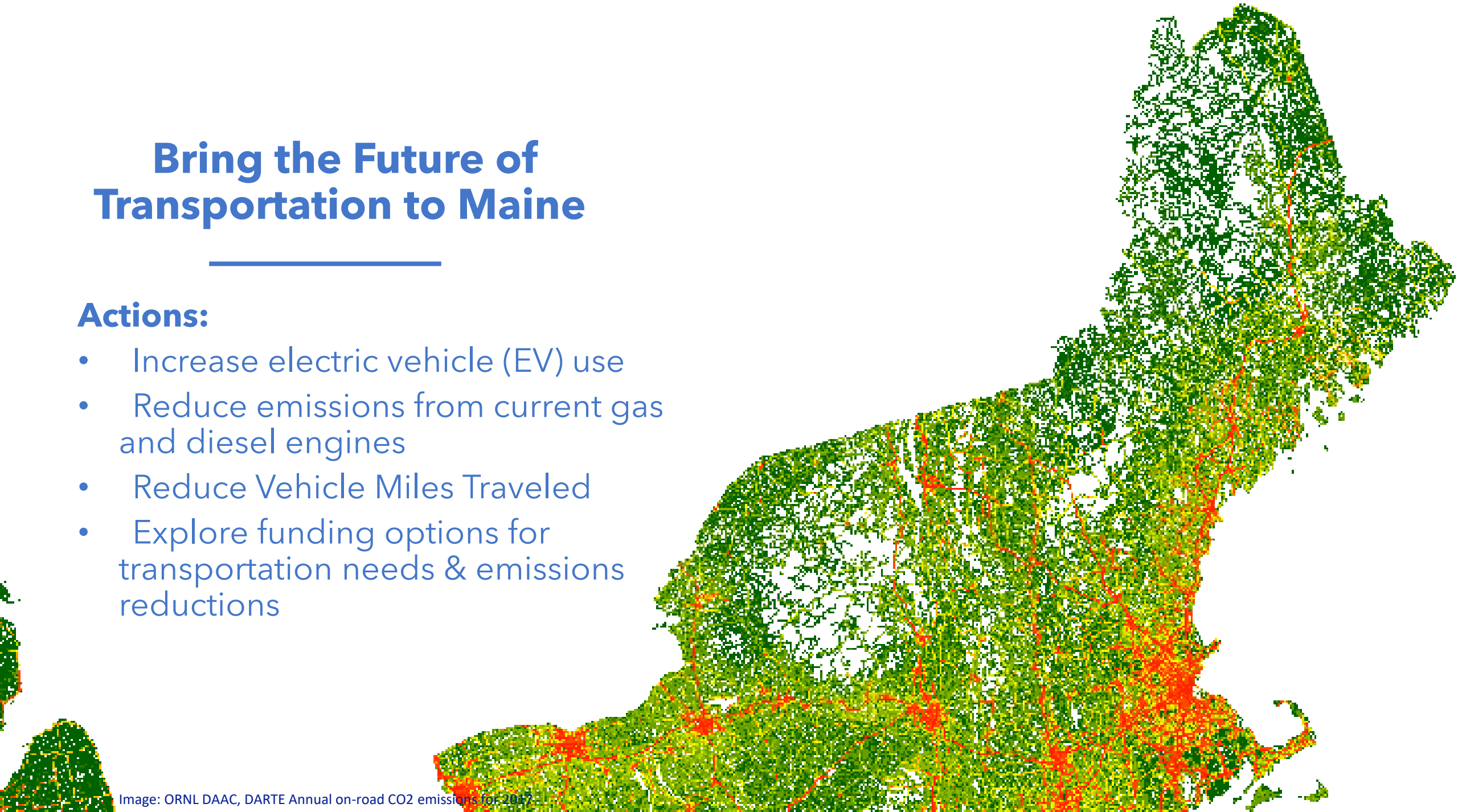


Image: ORNL DAAC, DARTE Annual on-road CO2 emissions for 2017

Modernize Maine's Buildings:
Energy Efficient, Smart and Cost-Effective Homes and Businesses

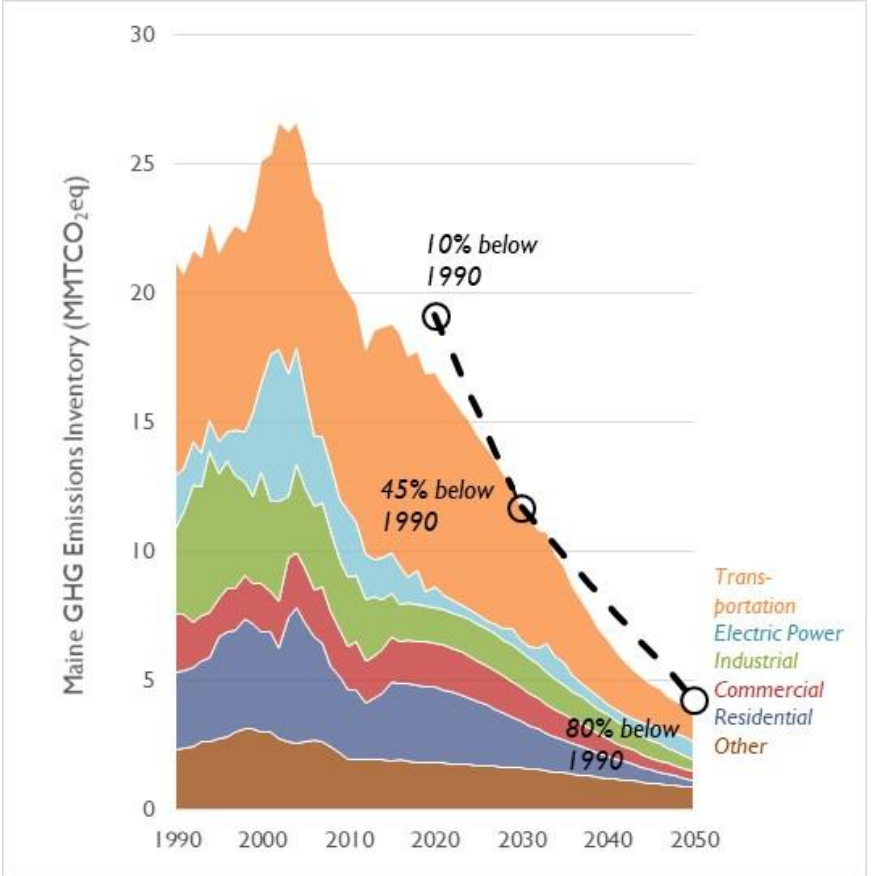
1. Transition to cleaner heating and cooling systems
2. Improve the design and construction of new buildings through building codes
3. Weatherize existing buildings
4. “Lead by Example” in publicly funded buildings
5. Institute a Renewable Fuel Standard (RFS) for all heating fuels
6. Promote climate-friendly building products such as mass timber and wood-fiber insulation made in Maine
7. Incentivize Maine’s hospitals to become carbon neutral

Drive Innovation to Reduce Carbon Emissions in Maine's Energy and Industrial Sectors

1) Ensure adequate affordable clean energy supply to meet Maine’s energy and climate goals
2) Accelerate the Decarbonization of Industrial Use and Processes
3) Encourage Highly efficient Combined Heat and Power (CHP) facilities
4) Develop and implement new financing options necessary to meet Maine’s clean energy and emission reduction targets
5) Initiate a stakeholder process to make recommendations to modernize Maine’s electric grid, energy systems, and policies while ensuring it is done efficiently and affordably

Potential Emission Reduction Pathway

Metric	2025 Outcome	2030 Outcome
Number of EVs or equivalent clean cars	41,375	219,271
EV Share of New Light-Duty Vehicle Sales	28%	85%
Clean/EV Share of New Heavy-Duty Sales	2%	4%
Renewable Energy on Maine's Electricity Grid		80%
Homes weatherized	20,000	40,000
Reduction in Light-Duty VMT per Vehicle	10%	20%
Number of Households with Retrofit Heat Pumps (installed after 2018)	80,151	130,419
Number of Households with Whole Home Heat Pump Systems	34,607	115,636



Energy Modeling Results – 2030

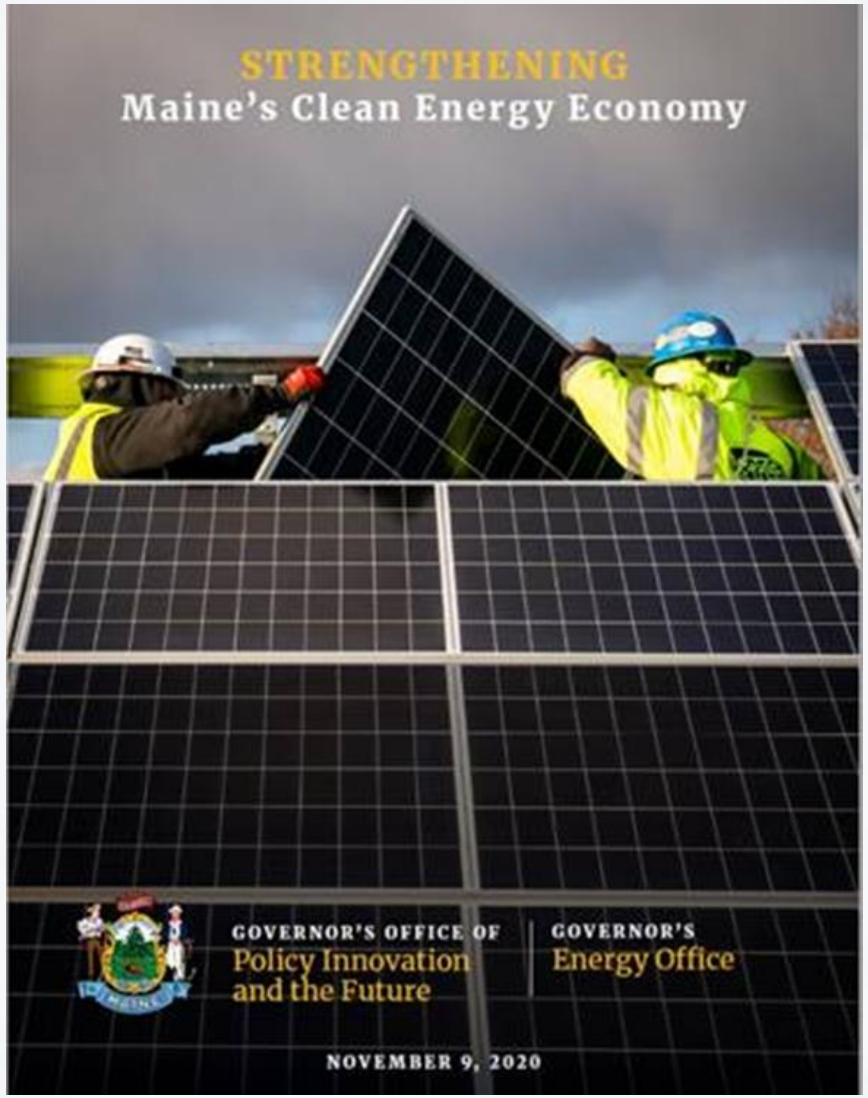
Resource/Emission	2020	Sustained Policy Baseline	Decarbonization Policy
Wind (TWh)	2.4	2.9	2.9
Wind (MW)	880	1,037	1,037
Solar (TWh)	0.2	2.5	2.5
Solar DG (MW)	59	614	614
Solar non-DG (MW)	26	857	857
Storage (MW)	16	16	16
DR (MW)	102	125	125
Generation-based GHG Emissions ($MMTCO_2$)	0.8	0.2	0.4

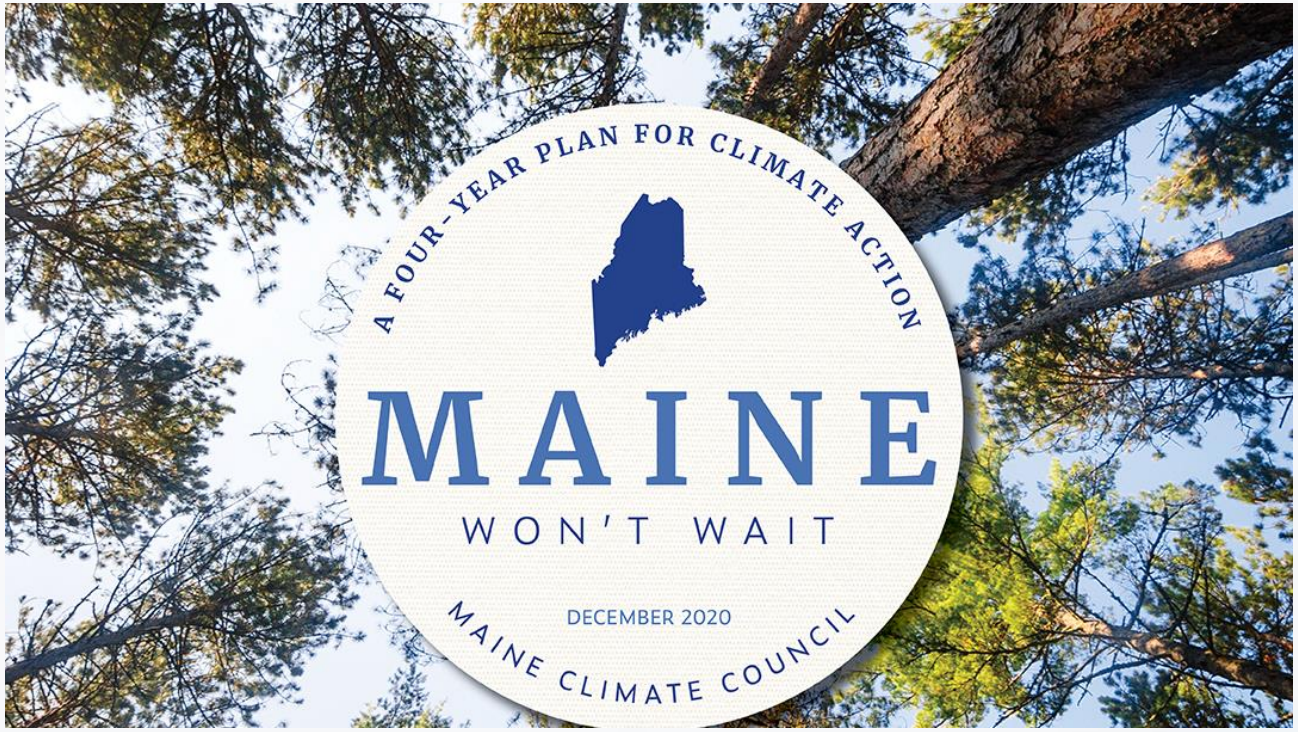
***not pathway scenario**

Energy Modeling Results - 2050

Resource/Emission	2020	Sustained Policy Baseline	Decarbonization Policy
Wind (TWh)	2.4	6.2	17.7
Wind (MW)	880	1,820	4,840
Solar (TWh)	0.2	2.4	3.2
Solar DG (MW)	59	733	733
Solar non-DG (MW)	26	857	1,382
Storage (MW)	16	16	1,644
DR (MW)	102	125	125
Generation-based GHG Emissions ($MMTCO_2$)	0.8	0.1	0.7

***not pathway scenario**





www.maine.gov/energy