



Quantified Climate Action Measures Directory – State Directory

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About the State Directory

The State Quantified Climate Action Measures Directory presents a searchable list of quantified greenhouse gas (GHG) reduction measures from 24 reviewed state climate action plans and the tools used to quantify them. All measures listed in the directory are summarized from publicly available documents (e.g., a climate action plan, a supporting technical appendix, or an associated report) and are based on EPA's understanding of those plans. Any errors or inaccuracies within these summaries are EPA's own. Inclusion in the directory does not imply EPA's endorsement of any specific measure type, quantification tool, or a measure-level quantification approach. Similarly, the absence of a measure type, tool, or quantification approach should not preclude state, local, tribal, and territorial governments from considering them as part of a climate action planning exercise.

The directory has two components:

- A **summary table** presenting the total number of quantified measures identified in each of eight economic sectors (Agriculture, Commercial and residential buildings, Electricity, Industry, Natural and working lands, Oil & natural gas systems, Transportation, and Waste and materials management) as well as the number of measures quantified by each tool in each sector.
- A **searchable and sortable table** of example quantified GHG reduction measures. The table includes the following information for each measure: description, type, sector(s), tool used to quantify the GHG emissions reductions, jurisdiction, and references to source documents.

How to Use the State Directory

The summary table and quantified measures table present different options to identify example measures and quantification tools that may be of interest to state, local, tribal, and territorial agencies who are developing climate action plans.

- **Search to limit the measures displayed in the table.** Use search terms to limit the table to measures with matching terms. The summary table may suggest searches of interest to isolate uses of a tool across an individual sector (e.g., entering “Excel based custom built tool electricity” will reduce the table to the electricity sector measures quantified by an excel-based custom built tool)
- **Filter and sort to limit the measures displayed in the table.** Users may sort the directory contents by any of the columns displayed and may also limit the measures displayed by filtering the table for specific measure types, sectors, quantification tools, and jurisdictions. Filters can also be combined with each other and with search terms to isolate applications of a quantification tool to a particular measure type or sector.
- **Export lists of quantified climate action measures.** Use the CSV button (upper right of the table) to download a spreadsheet of the directory information displayed.

State Quantification Tools Summary Table

This summary table displays the following information from EPA's review of state climate action planning documents: the total number of quantified GHG reduction measures identified in each of eight sectors; and for each sector, disaggregated sub-totals of the number of measures quantified by individual tools in that sector. “Excel-based custom-built tool” describes a collection of distinct,

independently developed tools with that incorporate different data sets and varying levels of functionality. Information regarding the underlying data used by these tools as well as the other listed tools was not captured in the plan review.

	Sectors						
	Transportation	Commercial and Residential Buildings	Electricity	Industry*	Oil & Natural Gas Systems*	Natural and Working Lands*	Agriculture*
Total Number of Quantified Measures by Sector	92	56	40	44	15	28	18
Tool Used							
Excel -based custom-built tool	6	4	4	2	2	3	1
PATHWAYS / NY PATHWAYS	33	13	2	18	8	16	13
Energy Policy Simulator	22	12	16	14	2	7	1
EnergyPATHWAYS & RIO	9	6	7	2	1	0	0
LEAP	4	3	1	0	0	0	0
CO2Sight (Including IPM)	12	12	7	7	2	1	3
Other**	6	6	3	1	0	1	0

*Example quantified measures within the Industry, and Oil & Natural Gas Systems sectors fall within the CPRG program’s Industrial sector. Measures within the Natural and Working Lands, and Agriculture sectors fall within CPRG’s Agriculture/Natural and Working Lands sector.

**Other tools refers to the following collection of tools, each of which appeared in no more than one climate action plan: AVOIDed Emissions and geneRation Tool (AVERT); California Air Resources Board (CARB); Electric Vehicle Regional Emissions and Demand Impacts (EV-REDI); Land Use and Climate Across Scales (LUCAS); Short-Lived Climate Pollutants (SLCP).

Acronyms from the above table include: Integrated Planning Model (IPM); Regional Investment and Operations (RIO); Long range Energy Alternatives Planning System (LEAP).

Searchable Table of Quantified State Climate Action Measures

Showing 1 to 276 of 276 entries

Export to CSV

Search:

	Filter by ▼	Filter by ▼	Filter by ▼	Filter by ▼	
Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Change feeding practices to reduce enteric fermentation to reduce enteric fermentation 25% by 2030.	Agriculture Operational Practices	Agriculture	PATHWAYS	Colorado	Colorado GHG Pollution Reduction-roadmap-20#::~text=colorac
Adjust soil management practices to sequester an additional 1 MMT of CO2 by 2030 and 3 MMT of CO2 by 2050.	Agriculture Operational Practices	Agriculture	PATHWAYS	Colorado	Colorado GHG Pollution Reduction-roadmap-20#::~text=colorac
Cropland management: Reduce tillage to strip or no till.	Agriculture Operational Practices	Agriculture	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction<https://mde.maryland.gov/programs,
Cropland management: Improve N fertilizer management to reduce by 15% through 4R or nitrification inhibitors	Agriculture Operational Practices	Agriculture	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction<https://mde.maryland.gov/programs,
Cropland management: Replace N fertilizer with soil amendments such as compost or manure.	Agriculture Operational Practices	Agriculture	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction<https://mde.maryland.gov/programs,
Cropland management: decrease fallow or add perennial crop to rotation.	Agriculture Operational Practices	Agriculture	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction<https://mde.maryland.gov/programs,
Cropland management: Add seasonal cover crop to cropland.	Agriculture Operational Practices	Agriculture	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction<https://mde.maryland.gov/programs,
Cropland management: Add annual or perennial forage to rotation, or convert to grass or forage planting.	Agriculture Operational Practices	Agriculture	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction<https://mde.maryland.gov/programs,
Cropland management: Add high carbon mulch to cropland.	Agriculture Operational Practices	Agriculture	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction<https://mde.maryland.gov/programs,

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Grazing: Add trees and shrubs to grazed pastures (> 20 plants/acre).	Agriculture Operational Practices	Agriculture	PATHWAYS	Maryland	2030 Greenhouse Gas Reducti < https://mde.maryland.gov/programs ,
Grazing: Leverage short-term intense grazing in small paddocks.	Agriculture Operational Practices	Agriculture	PATHWAYS	Maryland	2030 Greenhouse Gas Reducti < https://mde.maryland.gov/programs ,
Adopt conservation land management practices for agricultural land.	Sequestration	Agriculture	Excel-based custom-built tool	New Jersey	New Jersey's Global Warming < https://www.nj.gov/dep/climatechan
Implement livestock management.	Agriculture Operational Practices	Agriculture	Energy Policy Simulator	New Mexico	Progress and Recommendation < https://www.climateaction.nm.gov/w
Reduce agriculture emissions from animals and soils.	Agriculture Operational Practices	Agriculture	New York PATHWAYS model	New York	New York State Climate Action
Provide trainings and tools to implement agricultural best practices.	Non CO2 Emissions Management and/or Control	Agriculture	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Reduce methane emissions from agricultural uses, waste, and wastewater 50% by 2030 and 75% by 2040 through improved controls and monitoring and expanded methane capture for RNG generation or flaring.	Non CO2 Emissions Management and/or Control	Agriculture; Waste and materials management	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan
Decarbonize buildings: align with 2019 IEPR Mid-High (electric) / Mid-Mid (gas).	Energy Efficiency; Electrification	Commercial and residential buildings	PATHWAYS	California	California 2022 Scoping Plan fr < https://ww2.arb.ca.gov/resources/do
Decarbonize buildings: use all electric appliances in new buildings beginning 2026 (residential) and 2029 (commercial).	Electrification	Commercial and residential buildings	PATHWAYS	California	California 2022 Scoping Plan fr < https://ww2.arb.ca.gov/resources/do

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Decarbonize buildings: ensure 80% of appliance sales are electric by 2030 and 100% of appliance sales are electric by 2035 for existing residential buildings and ensure 80% of appliance sales are electric by 2030 and 100% of appliance sales are electric by 2045 for existing commercial buildings.	Electrification	Commercial and residential buildings	PATHWAYS	California	California 2022 Scoping Plan for GHG Reduction < https://ww2.arb.ca.gov/resources/documents/scoping-plan >
Reduce non-combustion emissions of HFCs through the use of low GWP refrigerants introduced as building electrification increases.	Non CO2 Emissions Management and/or Control	Commercial and residential buildings	PATHWAYS	California	California 2022 Scoping Plan for GHG Reduction < https://ww2.arb.ca.gov/resources/documents/scoping-plan >
Adopt high efficiency building shells for 100% of new buildings and retrofits by 2030.	Energy Efficiency	Commercial and residential buildings	PATHWAYS	Colorado	Colorado GHG Pollution Reduction Roadmap 2030 < https://www.colorado.gov/p1/resources/ghg-pollution-reduction-roadmap-2030 >
Increase electric heat pump deployment where the share of new sales that are electric is 60% by 2030, 95% by 2040.	Electrification	Commercial and residential buildings	PATHWAYS	Colorado	Colorado GHG Pollution Reduction Roadmap 2030 < https://www.colorado.gov/p1/resources/ghg-pollution-reduction-roadmap-2030 >
Improve non-HVAC appliance efficiency - 100% of lighting sales are efficient by 2021 and 100% of sales by 2030 for other appliances.	Energy Efficiency	Commercial and residential buildings	PATHWAYS	Colorado	Colorado GHG Pollution Reduction Roadmap 2030 < https://www.colorado.gov/p1/resources/ghg-pollution-reduction-roadmap-2030 >
Reduce building energy demand 2% by 2030 and 4% by 2050 through behavioral conservation and smart devices.	Energy Efficiency	Commercial and residential buildings	PATHWAYS	Colorado	Colorado GHG Pollution Reduction Roadmap 2030 < https://www.colorado.gov/p1/resources/ghg-pollution-reduction-roadmap-2030 >
Electrify non-stock sector demand 100% by 2050.	Electrification	Commercial and residential buildings	PATHWAYS	Colorado	Colorado GHG Pollution Reduction Roadmap 2030 < https://www.colorado.gov/p1/resources/ghg-pollution-reduction-roadmap-2030 >

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Increase energy efficiency through a suite of actions and strategies.	Energy Efficiency	Commercial and residential buildings	Long-range Energy Alternatives Planning System (LEAP)	Connecticut	Building a Low Carbon Future < https://portal.ct.gov/-/media/deep/cl
Increase renewable thermal deployment in new and existing residential buildings.	Electrification	Commercial and residential buildings	Long-range Energy Alternatives Planning System (LEAP)	Connecticut	Building a Low Carbon Future < https://portal.ct.gov/-/media/deep/cl
Increase renewable thermal deployment in new and existing commercial buildings.	Electrification	Commercial and residential buildings	Long-range Energy Alternatives Planning System (LEAP)	Connecticut	Building a Low Carbon Future < https://portal.ct.gov/-/media/deep/cl
Alter building energy codes to include IECC net zero appendices and align with future changes in stringency in IECC and ASHRAE codes and standards. Also to include increased code compliance and enforcement.	Energy Efficiency	Commercial and residential buildings	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan
Electrify 25% of residential and 40% of commercial existing buildings and 90% of new residential and commercial buildings by 2050.	Electrification	Commercial and residential buildings	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan
Expand residential energy efficiency programs resulting in a 0.7% annual decrease in energy consumption till 2023 and then 1.5% decrease from 2023 forward.	Energy Efficiency	Commercial and residential buildings	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Expand commercial energy efficiency programs resulting in a 0.7% annual decrease in energy consumption till 2023 and then 1.5% from 2023 forward.	Energy Efficiency	Commercial and residential buildings	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan
Reduce high-global warming potential emissions (HFC) from commercial buildings through a mix of voluntary and regulatory actions by 100% in 2040.	Non CO2 Emissions Management and/or Control	Commercial and residential buildings	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan
Increase renewable electricity generation and access by implementing a rebate for efficient HVAC products (100% by 2023).	Energy Efficiency	Commercial and residential buildings	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Improve the efficiency of homes and buildings through building energy efficiency standards at 35% reduction by 2030 for all.	Energy Efficiency	Commercial and residential buildings	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Improve the efficiency of homes and buildings through building component electrification at 50% by 2050 for all.	Electrification	Commercial and residential buildings	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Transition to more efficient appliances and systems (mainly heating and cooling).	Energy Efficiency	Commercial and residential buildings	Buildings Decarbonization Calculator	Maine	Maine Won't Wait: A Four-Year
Transition to electric heat pumps.	Electrification	Commercial and residential buildings	Buildings Decarbonization Calculator	Maine	Maine Won't Wait: A Four-Year
Increase amount of electric building components sold to 85% of total components sold by 2050.	Electrification	Commercial and residential buildings	Energy Policy Simulator	Minnesota	Minnesota Climate Action Plan

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Tighten energy efficiency standards in commercial, urban and rural residential buildings to reduce energy use by 25% by 2050.	Energy Efficiency	Commercial and residential buildings	Energy Policy Simulator	Minnesota	Minnesota Climate Action Plan
Retrofit 20% of existing commercial, urban and rural residential buildings by 2050.	Energy Efficiency	Commercial and residential buildings	Energy Policy Simulator	Minnesota	Minnesota Climate Action Plan
Reduce demand for building materials by 10% by 2050 through material efficiency, longevity, and re-use.	Low Embodied Carbon Materials	Commercial and residential buildings	Energy Policy Simulator	Minnesota	Minnesota Climate Action Plan
Adopt 2018 IECC code over 2015 IECC to increase energy savings.	Energy Efficiency	Commercial and residential buildings	EPA AVERT tool	Nevada	Nevada's 2020 State Climate Action Plan
Electrify 90% of residential and commercial building space and water heating by 2050.	Electrification	Commercial and residential buildings	EnergyPATHWAYS and RIO	New Jersey	New Jersey's Global Warming Solutions Act < https://www.nj.gov/dep/climatechan
Maximize energy efficiency to reduce fuel demand in both the residential and commercial sectors through retrofits and strengthening existing codes.	Energy Efficiency	Commercial and residential buildings	EnergyPATHWAYS and RIO	New Jersey	New Jersey's Global Warming Solutions Act < https://www.nj.gov/dep/climatechan
Reduce energy demand through adoption of the Clean Energy Act (CEA) electric efficiency requirements.	Energy Efficiency	Commercial and residential buildings	EnergyPATHWAYS and RIO	New Jersey	New Jersey's Global Warming Solutions Act < https://www.nj.gov/dep/climatechan
Encourage new sales of electric building components instead of non-electric building components.	Electrification	Commercial and residential buildings	Energy Policy Simulator	New Mexico	Progress and Recommendations < https://www.climateaction.nm.gov/w

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Implement energy efficiency standards for existing buildings, new buildings, and major renovation projects.	Energy Efficiency	Commercial and residential buildings	Energy Policy Simulator	New Mexico	Progress and Recommendation < https://www.climateaction.nm.gov/ >
Improve building shells and appliances for increased building efficiency.	Energy Efficiency	Commercial and residential buildings	New York PATHWAYS model	New York	New York State Climate Action
Install electric heat pump space heaters in buildings.	Electrification	Commercial and residential buildings	New York PATHWAYS model	New York	New York State Climate Action
Support building energy efficiency by implementing updates to the IECC and ASHRAE codes every 6 years.	Energy Efficiency	Commercial and residential buildings	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Require improved residential and commercial electricity efficiency.	Energy Efficiency	Commercial and residential buildings	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Improve residential and commercial building gas efficiency.	Energy Efficiency	Commercial and residential buildings	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Incentivize building electrification.	Electrification	Commercial and residential buildings	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Strengthen building energy codes.	Energy Efficiency	Commercial and residential buildings	Energy Policy Simulator	Rhode Island	Rhode Island 2022 Climate Up
Increase efficient electrification of building space and weather heating.	Electrification; Energy Efficiency	Commercial and residential buildings	Energy Policy Simulator	Rhode Island	Rhode Island 2022 Climate Up
Increase efficiency in buildings to 100% high efficiency by 2035.	Energy Efficiency	Commercial and residential buildings	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/>
Increase electric appliance sales to 90%-100% by 2035 depending on subsector under the electrification scenario.	Electrification	Commercial and residential buildings	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/>

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Replace gas appliances with new efficient gas appliances rather than electrify under the gas in buildings scenario.	Energy Efficiency	Commercial and residential buildings	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/>
Phase-in net-zero energy code for new construction.	Energy Efficiency; Electrification	Commercial and residential buildings	Excel-based custom-built tool	Washington, DC	Clean Energy DC ↗ < https://doee.dc.gov/sites/default/file:%20full%20report_0.pdf >
Improve energy performance of existing buildings through a suite of retrofits and improvements.	Energy Efficiency	Commercial and residential buildings	Excel-based custom-built tool	Washington, DC	Clean Energy DC ↗ < https://doee.dc.gov/sites/default/file:%20full%20report_0.pdf >
Retrofit DC Government buildings.	Energy Efficiency; Electrification	Commercial and residential buildings	Excel-based custom-built tool	Washington, DC	Clean Energy DC ↗ < https://doee.dc.gov/sites/default/file:%20full%20report_0.pdf >
Deploy refrigerant management programs to decrease leak rates from commercial and industrial refrigeration 25% annually between 2019-2025, and 9-10% annually by 2030.	Non CO2 Emissions Management and/or Control	Commercial and residential buildings; Industry	SLCP Emissions Tool	New Jersey	New Jersey's Global Warming ↗ < https://www.nj.gov/dep/climatechan
Non-pipeline solutions to eliminate the need for pipeline expansion.	Energy Efficiency; Electrification	Commercial and residential buildings; Industry; Oil and natural gas systems	Excel-based custom-built tool	New Jersey	New Jersey's Global Warming ↗ < https://www.nj.gov/dep/climatechan
Replace fossil fuels with renewable liquid and gaseous fuels.	Low-Carbon Fuels	Commercial and residential buildings; Industry; Transportation; Electricity	New York PATHWAYS model	New York	New York State Climate Action
Adopt and implement regulations to phasedown HFCs in favor of low-Global Warming Potential alternatives, consistent with the 2020 NJ legislation (Public Law 2019 c.507).	Non CO2 Emissions Management and/or Control	Commercial and residential buildings; Transportation	SLCP Emissions Tool	New Jersey	New Jersey's Global Warming ↗ < https://www.nj.gov/dep/climatechan

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Generate clean electricity: hit a GHG target of 38 MMTCO2e in 2030 and 31 MMTCO2e in 2045 for electricity generation.	Clean and Renewable Electricity	Electricity	RESOLVE	California	California 2022 Scoping Plan for GHG Emissions Reductions <https://ww2.arb.ca.gov/resources/documents/2022-scoping-plan>
Reduce power sector CO2 emissions 80% below 2005 levels by 2030 and 95% below 2005 levels by 2050.	Clean and Renewable Electricity	Electricity	RESOLVE	Colorado	Colorado GHG Pollution Reduction Roadmap 2020-2050 <https://www.colorado.gov/p3/sites/default/files/2022-06/colorado-ghg-pollution-reduction-roadmap-2020-2050.pdf>
Achieve 66% zero carbon generation by 2030 and 84% carbon free generation by 2050.	Clean and Renewable Electricity	Electricity	Long-range Energy Alternatives Planning System (LEAP)	Connecticut	Building a Low Carbon Future <https://portal.ct.gov/-/media/deep/climate/2021-06-01-building-a-low-carbon-future.pdf>
Expand the Renewable Portfolio Standard (RPS) with the targets of 25% renewable electricity from the grid by 2025, 40% by 2035, and 100% by 2050.	Clean and Renewable Electricity	Electricity	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan <https://www.delaware.gov/wp-content/uploads/2021/06/Climate-Action-Plan-2021-2050.pdf>
Shift towards a clean, renewable, and resilient power grid by implementing a clean electricity standard at 100% by 2035.	Clean and Renewable Electricity	Electricity	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan <https://www.louisiana.gov/assets/energy/2021-06-01-louisiana-climate-action-plan.pdf>
Shift towards a clean, renewable, and resilient power grid through early retirement of coal, non-peaker natural gas, and lignite power plants at 500 MW per year.	Clean and Renewable Electricity	Electricity	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan <https://www.louisiana.gov/assets/energy/2021-06-01-louisiana-climate-action-plan.pdf>
Shift towards a clean, renewable, and resilient power grid by implementing carbon capture and sequestration on natural gas peaker and nonpeaker, and biomass at 90% of emissions captured.	Emission Control Technology - CCS	Electricity	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan <https://www.louisiana.gov/assets/energy/2021-06-01-louisiana-climate-action-plan.pdf>

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Increase renewable electricity generation and access with distributed solar carve-out at 50% by 2030 and 100% by 2050.	Clean and Renewable Electricity	Electricity	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Increase renewable electricity generation and access with distributed solar subsidy at 100% by 2023.	Clean and Renewable Electricity	Electricity	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Increase renewable electricity generation and access through cogeneration and waste heat recovery at 100% of potential achieved by 2050.	Clean and Renewable Electricity	Electricity	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Increase the reliability and resilience of tomorrow's energy infrastructure using an offshore wind subsidy at \$20/MWh starting in 2023 to achieve 5 GW offshore wind generation by 2035.	Clean and Renewable Electricity	Electricity	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Increase the reliability and resilience of tomorrow's energy infrastructure using grid-scale energy storage to reach 1000 MW of energy storage by 2030.	Clean and Renewable Electricity	Electricity	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Increase the reliability and resilience of tomorrow's energy infrastructure by increasing transmission to achieve 30% increase in grid infrastructure by 2030 and 100% increase by 2050.	Clean and Renewable Electricity	Electricity	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Decarbonize electricity generation.	Clean and Renewable Electricity	Electricity	EnCompass	Maine	Maine Won't Wait: A Four-Year
Achieve 100% carbon-free electricity by 2040.	Clean and Renewable Electricity	Electricity	Energy Policy Simulator	Minnesota	Minnesota Climate Action Fran

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Increase transmission capacity by 20% by 2050 through electrical grid and transmission equipment upgrades, research, and development.	Clean and Renewable Electricity	Electricity	Energy Policy Simulator	Minnesota	Minnesota Climate Action Plan
Transition in-state fossil fuel electric generation to renewable energy - expand in-state solar.	Clean and Renewable Electricity	Electricity	EnergyPATHWAYS and RIO	New Jersey	New Jersey's Global Warming < https://www.nj.gov/dep/climatechange/
Transition in-state fossil fuel electric generation to renewable energy - invest in offshore wind.	Clean and Renewable Electricity; Low-Carbon Fuels	Electricity	EnergyPATHWAYS and RIO	New Jersey	New Jersey's Global Warming < https://www.nj.gov/dep/climatechange/
Transition in-state fossil fuel electric generation to renewable energy - use renewable biofuels.	Clean and Renewable Electricity	Electricity	EnergyPATHWAYS and RIO	New Jersey	New Jersey's Global Warming < https://www.nj.gov/dep/climatechange/
Procure out-of-state renewable energy.	Clean and Renewable Electricity	Electricity	EnergyPATHWAYS and RIO	New Jersey	New Jersey's Global Warming < https://www.nj.gov/dep/climatechange/
Capture and store carbon in the electricity sector.	Emission Control Technology - CCS	Electricity	Energy Policy Simulator	New Mexico	Progress and Recommendations < https://www.climateaction.nm.gov/
Generate and transmit more clean electricity on public, residential, and commercial lands.	Clean and Renewable Electricity	Electricity	Energy Policy Simulator	New Mexico	Progress and Recommendations < https://www.climateaction.nm.gov/
Retire power plants early.	Clean and Renewable Electricity	Electricity	Energy Policy Simulator	New Mexico	Progress and Recommendations < https://www.climateaction.nm.gov/
Achieve 70% renewable electricity by 2030 and 100% renewable electricity by 2040.	Clean and Renewable Electricity	Electricity	New York PATHWAYS model	New York	New York State Climate Action Plan

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Maintain nuclear generation at current levels, extending the lifetime of current plants through at least 2050.	Clean and Renewable Electricity	Electricity	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Create a carbon emissions-free grid by 2050.	Clean and Renewable Electricity	Electricity	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Enact a 100% renewable energy standard.	Clean and Renewable Electricity	Electricity	Energy Policy Simulator	Rhode Island	Rhode Island 2022 Climate Up
Adopt 500 MW of rooftop solar through 2030.	Clean and Renewable Electricity	Electricity	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/>
Extend Columbia Generating Station life for an additional 20 years at 1210 MW gross output.	Clean and Renewable Electricity	Electricity	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/>
Include SMRs in electricity resource mix.	Clean and Renewable Electricity	Electricity	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/>
Supply 50% of electricity from renewable sources by 2032 (Renewable Portfolio Standard).	Clean and Renewable Electricity	Electricity	Excel-based custom-built tool	Washington, DC	Clean Energy DC 🔗 <https://doee.dc.gov/sites/default/file: %20full%20report_0.pdf>
Supply 5% of electricity from locally-produced solar by 2032 (RPS Local Solar Requirement).	Clean and Renewable Electricity	Electricity	Excel-based custom-built tool	Washington, DC	Clean Energy DC 🔗 <https://doee.dc.gov/sites/default/file: %20full%20report_0.pdf>
Implement new, renewable-energy driven Standard Offer Service (SOS) procurement through Power Purchase Agreement to reduce cumulative emissions 20% by 2032.	Clean and Renewable Electricity	Electricity	Excel-based custom-built tool	Washington, DC	Clean Energy DC 🔗 <https://doee.dc.gov/sites/default/file: %20full%20report_0.pdf>
Install five neighborhood-scale thermal energy systems.	Low-Carbon Fuels; Clean and Renewable Electricity	Electricity	Excel-based custom-built tool	Washington, DC	Clean Energy DC 🔗 <https://doee.dc.gov/sites/default/file: %20full%20report_0.pdf>

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Expand renewable electricity on-site to 25% of residential homes and 15% of commercial spaces by 2050.	Clean and Renewable Electricity	Electricity; Commercial and residential buildings	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan
Increase renewable electricity generation and access by retrofitting existing buildings (urban residential).	Clean and Renewable Electricity	Electricity; Commercial and residential buildings	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Increase distributed on-site solar in both the residential and commercial sectors.	Clean and Renewable Electricity	Electricity; Commercial and residential buildings	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action Plan
Expand renewable electricity on-site to 15% of industrial spaces by 2050.	Clean and Renewable Electricity	Electricity; Industry	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan
Decarbonize industrial energy supply: use electrification and hydrogen to decarbonize industry energy use to varying degrees across different industries.	Electrification; Low-Carbon Fuels	Industry	PATHWAYS	California	California 2022 Scoping Plan for GHG Emissions Reductions < https://ww2.arb.ca.gov/resources/default.asp?cid=2022scopingplan&tid=2022scopingplan >
Decarbonize industrial energy supply: use CCS on select industrial facilities (stone clay, gas and cement).	Emission Control Technology - CCS	Industry	PATHWAYS	California	California 2022 Scoping Plan for GHG Emissions Reductions < https://ww2.arb.ca.gov/resources/default.asp?cid=2022scopingplan&tid=2022scopingplan >
Decarbonize industrial energy supply: reduce process emissions through the use of alternative materials.	Industrial Process Efficiency	Industry	PATHWAYS	California	California 2022 Scoping Plan for GHG Emissions Reductions < https://ww2.arb.ca.gov/resources/default.asp?cid=2022scopingplan&tid=2022scopingplan >
Decarbonize industrial energy supply: retire CHP use at facilities by 2040.	Electrification; Low-Carbon Fuels	Industry	PATHWAYS	California	California 2022 Scoping Plan for GHG Emissions Reductions < https://ww2.arb.ca.gov/resources/default.asp?cid=2022scopingplan&tid=2022scopingplan >

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Compensate for remaining emissions through scaling carbon dioxide removal strategies.	Emission Control Technology - CCS	Industry	PATHWAYS	California	California 2022 Scoping Plan for GHG Emissions Reductions < https://ww2.arb.ca.gov/resources/docs/scoping-plan >
Reduce energy demand 20% by 2030 and 40% by 2050.	Energy Efficiency	Industry	PATHWAYS	Colorado	Colorado GHG Pollution Reduction Roadmap 2020-2050 < https://www.colorado.gov/p1/resources/ghg-pollution-reduction-roadmap-2020-2050 >
Electrify 17% of fossil fuel consumption by 2030 and 32% by 2050.	Electrification	Industry	PATHWAYS	Colorado	Colorado GHG Pollution Reduction Roadmap 2020-2050 < https://www.colorado.gov/p1/resources/ghg-pollution-reduction-roadmap-2020-2050 >
Apply CCS at 90% capture rate to 100% of industrial coal consumption.	Emission Control Technology - CCS	Industry	PATHWAYS	Colorado	Colorado GHG Pollution Reduction Roadmap 2020-2050 < https://www.colorado.gov/p1/resources/ghg-pollution-reduction-roadmap-2020-2050 >
Apply CCS at a 90% capture rate to 16% of industrial natural gas consumption by 2030 and 32% by 2050.	Emission Control Technology - CCS	Industry	PATHWAYS	Colorado	Colorado GHG Pollution Reduction Roadmap 2020-2050 < https://www.colorado.gov/p1/resources/ghg-pollution-reduction-roadmap-2020-2050 >
Apply CCS to capture 90% cement and lime manufacturing process emissions.	Emission Control Technology - CCS	Industry	PATHWAYS	Colorado	Colorado GHG Pollution Reduction Roadmap 2020-2050 < https://www.colorado.gov/p1/resources/ghg-pollution-reduction-roadmap-2020-2050 >
Improve industrial energy efficiency to decrease energy consumption by 0.7% annually till 2023 and then 1.5% from 2023 forward.	Energy Efficiency	Industry	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan 2020-2050 < https://www.delaware.gov/p1/resources/climate-action-plan-2020-2050 >
Reduce high-global warming potential (HFC) emissions from the industrial sector through a mix of voluntary and regulatory actions by 100% in 2040.	Non CO2 Emissions Management and/or Control	Industry	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan 2020-2050 < https://www.delaware.gov/p1/resources/climate-action-plan-2020-2050 >
Improve efficiencies and modernization of industrial processes through improved system design.	Industrial Process Efficiency	Industry	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan 2020-2050 < https://www.louisiana.gov/p1/resources/climate-action-plan-2020-2050 >

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Improve efficiencies and modernization of industrial processes by implementing industry energy efficiency standards.	Energy Efficiency	Industry	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Accelerate industrial electrification and fuel switching by implementing carbon capture and sequestration to ensure net zero emissions for industry by 2050.	Emission Control Technology - CCS	Industry	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Accelerate industrial electrification and fuel switching by through industrial electrification and hydrogen in order to abate heavy industry emissions through alternative feedstocks and fuels to the extent practicable.	Electrification; Low-Carbon Fuels	Industry	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Accelerate industrial electrification and fuel switching by investing in direct air capture R and D.	Emission Control Technology - CCS	Industry	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Accelerate industrial electrification and fuel switching by shifting hydrogen production to electrolysis in order to abate heavy industry emissions through alternative feedstocks and fuels to the extent practicable.	Low-Carbon Fuels	Industry	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Promote reduced-carbon materials through cement clinker substitution.	Low Embodied Carbon Materials	Industry	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Promote reduced-carbon materials through material efficiency, longevity, and reuse to achieve 30% reduction in demand by 2030 for cement, iron and steel, and water and waste.	Low Embodied Carbon Materials	Industry	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Promote reduced-carbon materials through buildings energy efficiency standards to achieve 30% reduction in energy use in commercial buildings by 2030.	Low Embodied Carbon Materials	Industry	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Adopt energy efficient operations and investment in the industrial sector.	Energy Efficiency	Industry	Excel-based custom-built tool	New Jersey	New Jersey's Global Warming < https://www.nj.gov/dep/climatechan
Capture and store carbon in the industry sector.	Emission Control Technology - CCS	Industry	Energy Policy Simulator	New Mexico	Progress and Recommendation < https://www.climateaction.nm.gov/w
Implement industry energy efficiency standards.	Energy Efficiency	Industry	Energy Policy Simulator	New Mexico	Progress and Recommendation < https://www.climateaction.nm.gov/w
Implement F-gas measures to prevent and reduce the release of F-gases.	Non CO2 Emissions Management and/or Control	Industry	Energy Policy Simulator	New Mexico	Progress and Recommendation < https://www.climateaction.nm.gov/w
Increase industrial manufacturing efficiency.	Energy Efficiency	Industry	New York PATHWAYS model	New York	New York State Climate Action
Replace industrial natural gas and petroleum fuel usage with electricity and low carbon fuels.	Electrification; Low-Carbon Fuels	Industry	New York PATHWAYS model	New York	New York State Climate Action
Reduce use of HFCs and other industrial process and product uses (IPPU).	Non CO2 Emissions Management and/or Control	Industry	New York PATHWAYS model	New York	New York State Climate Action

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Increase reductions from negative emissions technologies (NETs), such as direct air capture (DAC).	Emission Control Technology - CCS	Industry	New York PATHWAYS model	New York	New York State Climate Action
Increase industrial energy efficiency and fuel switching.	Energy Efficiency; Electrification; Low-Carbon Fuels	Industry	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Incentivize and increase use of distributed Combined Heat and Power.	Energy Efficiency	Industry	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Improve energy intensity across industrial subsectors 1% per year.	Energy Efficiency	Industry	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/>
Switch fuels to electricity in 50% of process heating, 100% of machine drives, and 75% of building heating and cooling in industry by 2050.	Electrification; Low-Carbon Fuels	Industry	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/>
Use programs, tools, and incentives to increase energy efficiency for agriculture.	Energy Efficiency	Industry; Agriculture	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Increase production and use of biogas/renewable gas to 75% (RNG) of total feedstock by 2050.	Low-Carbon Fuels	Industry; Commercial and residential buildings; Transportation; Electricity	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Electrify 100% of diesel consumption by 2030.	Electrification	Industry; Oil and natural gas systems	PATHWAYS	Colorado	Colorado GHG Pollution Reduc reduction-roadmap-20#:~:text=colorac
Promote reduced-carbon materials through improved labeling.	Low Embodied Carbon Materials	Industry; Transportation	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Use suites of on-the-ground actions, or treatments, that are used across the landscape to manipulate an ecosystem and enhance sequestration from natural and working lands.	Sequestration	Natural and working lands	Regional Hydro-Ecological Simulation System (RHESSys), SUBCALC, New custom models, Daycent, CARB Urban Forest Carbon Model, CARB Orchard Carbon Model/LUCAS	California	California 2022 Scoping Plan for < https://ww2.arb.ca.gov/resources/do
Enhance natural and working lands through afforestation and reforestation.	Sequestration	Natural and working lands	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Enhance natural and working lands through forest set-asides.	Sequestration	Natural and working lands	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Enhance natural and working lands through cropland management.	Sequestration	Natural and working lands	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Enhance natural and working lands through rice cultivation measures.	Sequestration	Natural and working lands	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Enhance natural and working lands through improved forest management.	Sequestration	Natural and working lands	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Land use changes - add herbaceous or woody plants: Convert to permanent unfertilized grass, legume, pollinator or other mix, ungrazed.	Sequestration	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs
Land use changes - add herbaceous or woody plants: Convert to grass, forage or biomass plant.	Sequestration; Low-Carbon Fuels	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Land use changes - add herbaceous or woody plants: Convert area near water to permanent unfertilized grass.	Sequestration	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Land use changes - add herbaceous or woody plants: Convert strips to permanent unfertilized grass, legume, pollinator or other mix.	Sequestration	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Land use changes - add herbaceous or woody plants: Convert strips to permanent unfertilized grass/legume to reduce runoff.	Sequestration	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Land use changes - add herbaceous or woody plants: Convert strips to permanent unfertilized grass/legume.	Sequestration	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Land use changes - add herbaceous or woody plants: Convert strips to permanent unfertilized grass/legume to filter water.	Sequestration	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Land use changes - add herbaceous or woody plants: Plant stiff vegetative cover on hillsides or by streams to reduce erosion; can be used in critical areas.	Sequestration	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Land use changes- add woody plants: Plant trees and shrubs in marginal cropland to restore diversity, improve water quality.	Sequestration	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Land use changes- add woody plants: Plant trees and shrubs in marginal cropland to restore diversity, improve water quality.	Sequestration	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Land use changes- add woody plants: Plant trees and shrubs.	Sequestration	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Land use changes- add woody plants: Replace strip of cropland near water with woody plants.	Sequestration	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Land use changes- add woody plants: Replace 20% of annual cropland with woody plants.	Sequestration	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Land use changes- add woody plants: Replace 20% of cropland with trees and shrubs of different heights, could be permaculture.	Sequestration	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Land use changes- add woody plants: Replace strip of cropland with one row woody plants, could combine with Conservation Cover for pollinators.	Sequestration	Natural and working lands	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Reforest former cultivated land including pasture and cropland, wetland and other lands, urban areas, and agroforestry.	Sequestration	Natural and working lands	Excel-based custom-built tool	New Jersey	New Jersey's Global Warming < https://www.nj.gov/dep/climatechan
Retain existing forests and grasslands by forgoing development.	Sequestration	Natural and working lands	Excel-based custom-built tool	New Jersey	New Jersey's Global Warming < https://www.nj.gov/dep/climatechan
Proactively manage forests by planting new trees in forest areas that are currently understocked.	Sequestration	Natural and working lands	Excel-based custom-built tool	New Jersey	New Jersey's Global Warming < https://www.nj.gov/dep/climatechan

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Support afforestation and reforestation.	Sequestration	Natural and working lands	Energy Policy Simulator	New Mexico	Progress and Recommendation < https://www.climateaction.nm.gov/w
Improve forest management.	Sequestration	Natural and working lands	Energy Policy Simulator	New Mexico	Progress and Recommendation < https://www.climateaction.nm.gov/w
Enhance carbon sequestration through sustainable forest management.	Sequestration	Natural and working lands	New York PATHWAYS model	New York	New York State Climate Action
Increase land and forest management for natural sequestration.	Non CO2 Emissions Management and/or Control	Natural and working lands	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Coordinate supply of liquid fossil fuels with declining California fuel demand: phase out Oil & gas extraction operations by 2045.	Energy Efficiency; Electrification; Low-Carbon Fuels	Oil and natural gas systems	PATHWAYS	California	California 2022 Scoping Plan fr < https://ww2.arb.ca.gov/resources/do
Coordinate supply of liquid fossil fuels with declining California fuel demand: deploy CCS on majority of petroleum refining operations by 2030 and reduce production in line with reduced demand.	Emission Control Technology - CCS	Oil and natural gas systems	PATHWAYS	California	California 2022 Scoping Plan fr < https://ww2.arb.ca.gov/resources/do
Adopt incremental regulations to reduce fugitive emissions.	Non CO2 Emissions Management and/or Control	Oil and natural gas systems	PATHWAYS	Colorado	Colorado GHG Pollution Reduc reduction-roadmap-20#:~:text=colorac
Seal abandoned mines and capture methane emissions.	Non CO2 Emissions Management and/or Control	Oil and natural gas systems	PATHWAYS	Colorado	Colorado GHG Pollution Reduc reduction-roadmap-20#:~:text=colorac

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Reduce fugitive methane emissions from natural gas transmission and distribution by 60% annually through a Leak Detection and Repair (LDAR) program.	Non CO2 Emissions Management and/or Control	Oil and natural gas systems	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan
Modernize natural gas infrastructure by eliminating unprotected steel distribution mains by 2032 and cast iron by 2045.	Non CO2 Emissions Management and/or Control	Oil and natural gas systems	Excel-based custom-built tool	New Jersey	New Jersey's Global Warming < https://www.nj.gov/dep/climatechan >
Capture and destroy methane otherwise released into atmosphere.	Non CO2 Emissions Management and/or Control	Oil and natural gas systems	Energy Policy Simulator	New Mexico	Progress and Recommendation < https://www.climateaction.nm.gov/w >
Reduce fugitive methane emissions from in-state gas facilities and equipment.	Non CO2 Emissions Management and/or Control	Oil and natural gas systems	New York PATHWAYS model	New York	New York State Climate Action
Reduce methane emissions across Oil and natural gas systems.	Non CO2 Emissions Management and/or Control	Oil and natural gas systems	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action Plan
Reduce refining by 75% by 2050 from reduced fossil fuel demands.	Non CO2 Emissions Management and/or Control	Oil and natural gas systems	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/>
Reduce non-combustion emissions of methane through capture and management of emissions from landfills and agriculture sources, as well as fugitive emissions from Oil & gas systems.	Non CO2 Emissions Management and/or Control; Waste diversion; Agriculture Operational Practices	Oil and natural gas systems; Agriculture; Waste and materials management	PATHWAYS	California	California 2022 Scoping Plan for < https://ww2.arb.ca.gov/resources/do >

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Decarbonize the gas supply through the use of RNG and hydrogen through the 2030s and 2040s.	Low-Carbon Fuels	Oil and natural gas systems; Commercial and residential buildings; Industry	PATHWAYS	California	California 2022 Scoping Plan for < https://ww2.arb.ca.gov/resources/do
Monitor and regulate methane emissions through methane capture and destruction.	Non CO2 Emissions Management and/or Control	Oil and natural gas systems; Waste and materials management	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Deploy ZEVs and reduce driving demand: reduce VMT per capita. 12% below 2019 levels by 2030 and 22% below 2019 levels by 2045.	Travel Demand Management	Transportation	PATHWAYS	California	California 2022 Scoping Plan for < https://ww2.arb.ca.gov/resources/do
Deploy ZEVs and reduce driving demand: adhere to Advanced Clean Cars I GHG standards for 2017 - 2025 and achieve a 2% annual fuel economy improvement for 2026-2035.	Fuel Efficiency	Transportation	PATHWAYS	California	California 2022 Scoping Plan for < https://ww2.arb.ca.gov/resources/do
Deploy ZEVs and reduce driving demand: Ensure 100% of LDV sales are ZEV by 2035.	Electrification	Transportation	PATHWAYS	California	California 2022 Scoping Plan for < https://ww2.arb.ca.gov/resources/do
Deploy ZEVs and reduce driving demand: adhere to Truck Fuel Economy Standards: California Phase II GHG Standards.	Fuel Efficiency	Transportation	PATHWAYS	California	California 2022 Scoping Plan for < https://ww2.arb.ca.gov/resources/do
Deploy ZEVs and reduce driving demand: Ensure 100% of MD/HDV sales are ZEV by 2040.	Electrification	Transportation	PATHWAYS	California	California 2022 Scoping Plan for < https://ww2.arb.ca.gov/resources/do

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Deploy ZEVs and reduce driving demand: meet 10% of aviation fuel demand by electricity (batteries) or hydrogen (fuel cells) in 2045, SAF meets remainder of demand.	Electrification; Low-Carbon Fuels	Transportation	PATHWAYS	California	California 2022 Scoping Plan for GHG Reduction < https://ww2.arb.ca.gov/resources/do
Deploy ZEVs and reduce driving demand: implement 2020 OGV At-Berth regulation with most OGVs utilizing shore power by 2027 and have 25% of OGVs and utilize hydrogen fuel cell electric technology by 2045.	Electrification; Low-Carbon Fuels	Transportation	PATHWAYS	California	California 2022 Scoping Plan for GHG Reduction < https://ww2.arb.ca.gov/resources/do
Deploy ZEVs and reduce driving demand: implement Executive Order N79-20 which requires 100% of cargo handling equipment (CHE) be zero-emission by 2037 and also ensure 100% of drayage trucks are zero emission by 2035.	Electrification; Low-Carbon Fuels	Transportation	PATHWAYS	California	California 2022 Scoping Plan for GHG Reduction < https://ww2.arb.ca.gov/resources/do
Deploy ZEVs and reduce driving demand: for rail, achieve 100% of passenger and other locomotive sales are ZEV by 2030, 100% of line haul locomotive sales are ZEV by 2035, and that line haul and passenger rail rely primarily on hydrogen fuel cell technology, and other primarily utilize electricity.	Electrification; Low-Carbon Fuels	Transportation	PATHWAYS	California	California 2022 Scoping Plan for GHG Reduction < https://ww2.arb.ca.gov/resources/do
Reduce LDV VMT 10% (relative to reference) starting in 2020.	Travel Demand Management	Transportation	PATHWAYS	Colorado	Colorado GHG Pollution Reduction-roadmap-20#::~text=colorac

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Electrify LDV, MDV, and HDV fleet - share of electric sales to be 70% by 2030 and 100% by 2040 for LDV; 40% by 2030 and 100% by 2040 for MDV/HDV; and, 100% by 2030 of buses.	Electrification	Transportation	PATHWAYS	Colorado	Colorado GHG Pollution Reduction-roadmap-20#:~:text=colorac
Meet 100% of fuel demand for non-electrified vehicles with low-carbon biofuels by 2050.	Low-Carbon Fuels	Transportation	PATHWAYS	Colorado	Colorado GHG Pollution Reduction-roadmap-20#:~:text=colorac
Increase electric passenger car/truck penetration rate.	Electrification	Transportation	Long-range Energy Alternatives Planning System (LEAP)	Connecticut	Building a Low Carbon Future < https://portal.ct.gov/-/media/deep/cl
Increase heavy duty electric vehicle penetration rate.	Electrification	Transportation	Long-range Energy Alternatives Planning System (LEAP)	Connecticut	Building a Low Carbon Future < https://portal.ct.gov/-/media/deep/cl
Develop and use clean long haul and rail.	Electrification; Low-Carbon Fuels	Transportation	Long-range Energy Alternatives Planning System (LEAP)	Connecticut	Building a Low Carbon Future < https://portal.ct.gov/-/media/deep/cl
Adopt measures to reduce VMT growth.	Travel Demand Management	Transportation	Long-range Energy Alternatives Planning System (LEAP)	Connecticut	Building a Low Carbon Future < https://portal.ct.gov/-/media/deep/cl
Implement a Low Carbon Fuel Standard with target reductions in carbon intensity of the fuel mix in accordance with 10% and 20% carbon intensity reduction targets by 2030 and 2040, respectively.	Low-Carbon Fuels	Transportation	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Reduce vehicle miles traveled by light-duty vehicles 10% by 2035 and 15% by 2050.	Travel Demand Management	Transportation	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan
Require vehicle manufacturers to make available a specific number of zero or low emissions vehicles to sell in Delaware, based on the total number of cars sold in the state by the manufacturers such that 20% of new vehicles are ZEVs or PHEVs in 2025 and 70% in 2050.	Electrification	Transportation	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan
Incentivize consumers to purchase EVs yielding adoption rates of 20% by 2030 and 70% by 2050.	Electrification	Transportation	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan
Convert 20% of state agency LDVs to EVs by 2025 and 100% by 2050.	Electrification	Transportation	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan
Incentivize the adoption of and reach out to consumers about the benefits of fuel-efficient gasoline LDVs.	Fuel Efficiency	Transportation	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan
Expand freight best practices and regulatory actions to include mode switching, route optimization, and fuel efficiency.	Fuel Efficiency; Travel Demand Management	Transportation	CO2Sight (including IPM)	Delaware	Delaware's Climate Action Plan

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Reduce VMT and increase transportation efficiencies through mode shifting in order to double use of alternative modes of transportation by 2035.	Travel Demand Management	Transportation	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Reduce VMT and increase transportation efficiencies through fuel economy standards.	Fuel Efficiency	Transportation	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Accelerate adoption of clean transportation fuels through EV charger deployment at reach 250 chargers per 100,000 people by 2050.	Electrification	Transportation	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Accelerate adoption of clean transportation fuels by reducing concern in EV range and charging time.	Electrification	Transportation	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Accelerate adoption of clean transportation fuels by implementing an EV sales standard of 20% of passenger LDVs, freight LDVs, and freight HDVs, by 2050.	Electrification	Transportation	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Accelerate adoption of clean transportation fuels by implementing an EV subsidy.	Electrification	Transportation	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Accelerate adoption of clean transportation fuels by implementing a low carbon fuel standard at 5% reduction by 2030.	Low-Carbon Fuels	Transportation	Energy Policy Simulator	Louisiana	Louisiana Climate Action Plan
Accelerate Maine's transition to electric vehicles.	Electrification	Transportation	EV-REDI	Maine	Maine Won't Wait: A Four-Year

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Reduce vehicle miles for light duty and heavy duty vehicles.	Travel Demand Management	Transportation	EV-REDI	Maine	Maine Won't Wait: A Four-Year
Increase vehicle fuel efficiency by adopting CA vehicle standards and push for improvement in national CAFE standards.	Fuel Efficiency	Transportation	EV-REDI	Maine	Maine Won't Wait: A Four-Year
Use managed EV charging.	Electrification	Transportation	EV-REDI	Maine	Maine Won't Wait: A Four-Year
Implement TSMO/Integrated Corridor Management - Limited Access System.	Travel Demand Management	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reducti < https://mde.maryland.gov/programs ,
Implement TSMO/Integrated Corridor Management - Arterial System.	Travel Demand Management	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reducti < https://mde.maryland.gov/programs ,
Implement Regional Clean Fuel Standard.	Low-Carbon Fuels	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reducti < https://mde.maryland.gov/programs ,
Achieve a total of 790,000 electric vehicles with federal action by 2030.	Electrification	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reducti < https://mde.maryland.gov/programs ,
Implement autonomous/connected vehicle technologies.	Travel Demand Management	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reducti < https://mde.maryland.gov/programs ,
Implement variable speeds/speed management.	Fuel Efficiency	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reducti < https://mde.maryland.gov/programs ,
Improve intermodal freight centers access.	Travel Demand Management	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reducti < https://mde.maryland.gov/programs ,

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Implement commercial vehicle technologies including idle reduction, low-carbon fleet, and dynamic routing.	Travel Demand Management; Electrification; Low-Carbon Fuels	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Implement freight villages/freight consolidation centers.	Travel Demand Management	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Expand transit capacity/service.	Travel Demand Management	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Complete MARC Growth and Investment Plan/Cornerstone Plan.	Travel Demand Management	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Build out TOD (20 incentive zones).	Travel Demand Management	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Achieve 50 to 75% EV transit bus fleet.	Electrification	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Build NE Corridor HSR/SCMAGLEV/Hyperloop.	Travel Demand Management	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Expand TDM strategies (dynamic).	Travel Demand Management	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Use Pay-As-You-Drive insurance.	Travel Demand Management	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,
Expand telework.	Travel Demand Management	Transportation	PATHWAYS	Maryland	2030 Greenhouse Gas Reduction < https://mde.maryland.gov/programs ,

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Increase amount of electric light-duty commercial vehicle (LDV) sales and electric heavy-duty commercial vehicle (HDV) sales to 50% and 7% of total new vehicle sales by 2030, then 75% and 10%, respectively, by 2050.	Electrification	Transportation	Energy Policy Simulator	Minnesota	Minnesota Climate Action Plan
Achieve 88% increase in MPG for LDVs, 45% increase in MPG for Passenger HDVs, and 56% increase in MPG for Freight HDVs by 2050.	Fuel Efficiency	Transportation	Energy Policy Simulator	Minnesota	Minnesota Climate Action Plan
Achieve 20% reduction or mode shift per capita for light-duty vehicle miles traveled by 2050.	Travel Demand Management	Transportation	Energy Policy Simulator	Minnesota	Minnesota Climate Action Plan
Deploy additional 100 electric vehicle chargers per 100,000 population by 2050.	Electrification	Transportation	Energy Policy Simulator	Minnesota	Minnesota Climate Action Plan
Reduce vehicle buyers' concerns over electric vehicles' ranges and charging times by 10% by 2050.	Electrification	Transportation	Energy Policy Simulator	Minnesota	Minnesota Climate Action Plan
Implement subsidy for 1% of new electric passenger light-duty vehicle (LDV) purchase price by 2040.	Electrification	Transportation	Energy Policy Simulator	Minnesota	Minnesota Climate Action Plan
Reduce carbon emissions from transportation sector by 8% by 2030 and 20% by 2050 via fuel switching in conventional vehicles (not switching to electricity).	Low-Carbon Fuels	Transportation	Energy Policy Simulator	Minnesota	Minnesota Climate Action Plan
Achieve 88% of new light-duty vehicle sales that are electric by 2030 and 100% by 2035.	Electrification	Transportation	EnergyPATHWAYS and RIO	New Jersey	New Jersey's Global Warming < https://www.nj.gov/dep/climatechan

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Decarbonize 75% of medium- and 50% of heavy-duty vehicles by 2050.	Electrification; Low-Carbon Fuels	Transportation	EnergyPATHWAYS and RIO	New Jersey	New Jersey's Global Warming < https://www.nj.gov/dep/climatechan
Increase NJ Transit ridership by 2050 and expand transit villages.	Travel Demand Management	Transportation	Excel-based custom-built tool	New Jersey	New Jersey's Global Warming < https://www.nj.gov/dep/climatechan
Incentivize work-from-home policies, ridesharing, home delivery and other strategies.	Travel Demand Management	Transportation	Excel-based custom-built tool	New Jersey	New Jersey's Global Warming < https://www.nj.gov/dep/climatechan
Require manufacturers to deliver more new electric zero-emission vehicles (ZEVs) to state dealerships.	Electrification	Transportation	Energy Policy Simulator	New Mexico	Progress and Recommendation < https://www.climateaction.nm.gov/w
Reduce carbon emissions in transportation sector by implementing low-carbon and fuel economy standards.	Low-Carbon Fuels; Fuel Efficiency	Transportation	Energy Policy Simulator	New Mexico	Progress and Recommendation < https://www.climateaction.nm.gov/w
Shift transportation modes to reduce demand for passenger and freight transportation.	Travel Demand Management	Transportation	Energy Policy Simulator	New Mexico	Progress and Recommendation < https://www.climateaction.nm.gov/w
Reduce vehicle miles traveled (VMT).	Travel Demand Management	Transportation	New York PATHWAYS model	New York	New York State Climate Action
Transition to zero emission road and non-road (such as rails) vehicles, equipment, and infrastructure.	Electrification; Low-Carbon Fuels	Transportation	New York PATHWAYS model	New York	New York State Climate Action
Increase fuel efficiency of all light duty vehicles and reduce vehicle miles traveled for single occupancy vehicles.	Fuel Efficiency; Travel Demand Management	Transportation	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Adopt the multi-state medium-and heavy-duty zero-emission vehicle memorandum of understanding assuming 30% of new MHDV sales will be ZEV by 2030 and 100% by 2050.	Electrification	Transportation	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Increase adoption of electric light-duty electric vehicles in private and municipal fleets rising to 20% of market share by 2030 and 70% by 2050.	Electrification	Transportation	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Implement a Low Carbon Fuel Standard achieving a 12% carbon intensity reduction by 2030 and 22% by 2040.	Low-Carbon Fuels	Transportation	CO2Sight (including IPM)	Pennsylvania	Pennsylvania Climate Action P
Increase adoption of electric passenger vehicles.	Electrification	Transportation	Energy Policy Simulator	Rhode Island	Rhode Island 2022 Climate Up
Increase adoption of electric trucks and buses.	Electrification	Transportation	Energy Policy Simulator	Rhode Island	Rhode Island 2022 Climate Up
Increase decarbonization of RIPTA's bus fleet.	Electrification; Low-Carbon Fuels	Transportation	Energy Policy Simulator	Rhode Island	Rhode Island 2022 Climate Up
Expand RIPTA ridership to reduce light-duty VMT.	Travel Demand Management	Transportation	Energy Policy Simulator	Rhode Island	Rhode Island 2022 Climate Up
Reach 25% electric for heavy duty long haul vehicle sales by 2045 under the electrification scenario.	Electrification	Transportation	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/ >
Reach 75% hydrogen FCV for heavy duty long haul vehicle sales by 2045 under the electrification scenario.	Low-Carbon Fuels	Transportation	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/ >
Reach 100% electric for heavy duty short haul vehicle sales by 2045 under the electrification scenario.	Electrification	Transportation	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/ >

Measure Description	Measure Type	Sector	Tool	Jurisdiction	Climate Action Plan (CAP)
Increase share of electric heavy duty long haul vehicle sales by 2045.	Electrification	Transportation	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/>
Increase share of decarbonized medium duty vehicle sales by 2045.	Electrification; Low-Carbon Fuels	Transportation	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/>
Increase share of electric light duty auto sales.	Electrification	Transportation	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/>
Increase share of electric bus sales by 2040.	Electrification	Transportation	EnergyPATHWAYS and RIO	Washington	Washington 2021 State Energy state-energy-strategy/>
Benefit from Federal CAFE standards.	Fuel Efficiency	Transportation	Excel-based custom-built tool	Washington, DC	Clean Energy DC 🔗 <https://doee.dc.gov/sites/default/file:%20full%20report_0.pdf>
Change DC mode share to 50% transit, 25% walking/biking, and 25% driving by 2032.	Travel Demand Management	Transportation	Excel-based custom-built tool	Washington, DC	Clean Energy DC 🔗 <https://doee.dc.gov/sites/default/file:%20full%20report_0.pdf>
Grow the share of new vehicles sold that are electric to 30% by 2030.	Electrification	Transportation	Excel-based custom-built tool	Washington, DC	Clean Energy DC 🔗 <https://doee.dc.gov/sites/default/file:%20full%20report_0.pdf>
Electrify transit bus fleet.	Electrification	Transportation	Excel-based custom-built tool	Washington, DC	Clean Energy DC 🔗 <https://doee.dc.gov/sites/default/file:%20full%20report_0.pdf>
Increase alternative fuels by increasing local biofuel and biodiesel production and use and establishing incentive programs.	Low-Carbon Fuels	Transportation; Commercial and residential buildings	EV-REDI	Maine	Maine Won't Wait: A Four-Year
Increase utilization of renewable diesel, renewable natural gas, and hydrogen.	Low-Carbon Fuels	Transportation; Industry	PATHWAYS	Colorado	Colorado GHG Pollution Reduc reduction-roadmap-20#:~:text=colorac
Capture methane emissions from landfills.	Non CO2 Emissions Management and/or Control	Waste and materials management	PATHWAYS	Colorado	Colorado GHG Pollution Reduc reduction-roadmap-20#:~:text=colorac

