



MARYLAND COMMISSION
ON CLIMATE CHANGE

Serena McIlwain, Chair

The Energy Industry and Revitalization Working Group

May 21, 2024



Outline

- Member Introductions
- Overview of the MCCC and Working Group Charge
- Overview of Maryland's Climate Pollution Reduction Plan
- Introduction and Discussion of Study
- Outline of Work Plan and Process

Introductions

Please introduce yourself, including your role and organization name



Part 1

Overview of the MCCC and EREWG

The Maryland Commission on Climate Change (MCCC)

- MCCC Goal: Provide recommendations on how to reduce GHG emissions and adapt to the impacts of climate change
- Originated in 2007
 - Developed the 2008 Maryland “Climate Action Plan”
 - Led to the Greenhouse Gas Emission Reduction Act (GGRA) of 2009
- Commission codified into law in 2015
 - Made recommendations on the GGRA in December of 2015
 - GGRA of 2016 signed into law in April 2016
- The Climate Solutions Now Act of 2022 expanded MCCC membership and state goals



MCCC Working Groups

- Originally had four working groups:
 - The Adaptation and Response (Resilience) Working Group
 - The Scientific and Technical Working Group
 - The Education, Communication and Outreach Working Group
 - The Greenhouse Gas Mitigation Working Group
- Four new working groups due to the CSNA:
 - The Just Transition Employment and Retraining Working Group
 - **The Energy Industry Revitalization Working Group**
 - The Energy Resilience and Efficiency Working Group
 - The Solar Photovoltaic Systems Recovery, Reuse and Recycling Working Group

The Energy Industry Revitalization Working Group

- The Working Group will focus on energy infrastructure improvements, transmission efficiency, and battery storage.
- Meeting Dates:
 - May 21, 1:00pm-2:30pm
 - June 18 (in-person, site to be determined), 11:00am-12:30pm
 - July 16, 11:00am-12:30pm
 - August 13, 11:00am-12:30pm
 - September 10, 12:00 – 1:30pm
 - October 8 (in-person, site to be determined), 11:00am-12:30pm
 - November 5, 11:30am – 1:00pm
 - December 3, 11:30am – 1:00pm

The Energy Industry Revitalization Working Group

Membership

- One member of the Senate of Maryland, appointed by the President of the Senate - Senator Malcolm Augustine
- One member of the House of Delegates, appointed by the Speaker of the House - Delegate Lily Qi
- The Maryland Department of the Environment Secretary, or the Secretary's designee - Andrew Place (designee)
- The Secretary of Commerce, or the Secretary's designee - Heather Gramm, Asst. Sec. (designee)
- One representative of the National Federation of Independent Business, selected by the State director of the National Federation of Independent Business -
- One representative of the Maryland Chamber of Commerce, selected by the President and CEO of the Maryland Chamber of Commerce - Stephanie Kane, Old Dominion Electric Cooperative
- One representative of the Maryland Small Business Development Center - Jennifer Smith-Funn
- Six representatives of the energy industry, including:
 - Two representatives selected by the MDE Secretary -
 - Two representatives selected by the Public Service Commission - Nancy Sopko, US Wind; Charles Washington, BGE
 - Two representatives selected by the Director of the Maryland Energy Administration - Sarah E. Battisti, NRG Energy

Part 2

Maryland's Climate Pollution Reduction Plan

Presentation by Cindy Osorto

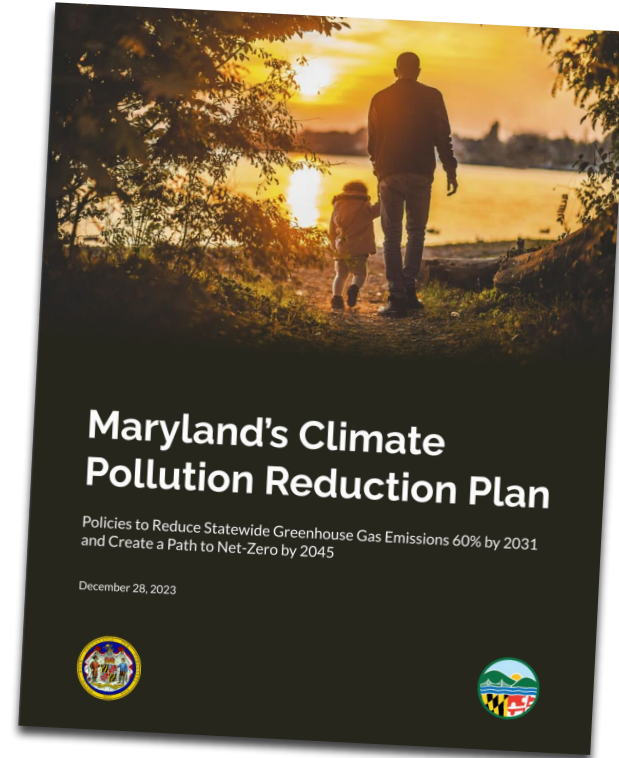


What is the Climate Pollution Reduction Plan?

MDE's final plan to:

- Reduce statewide greenhouse gas emissions **60% by 2031** (from 2006 levels)
- Set the state on a path to achieve **net-zero emissions by 2045**
- **Create net economic benefits** for Maryland

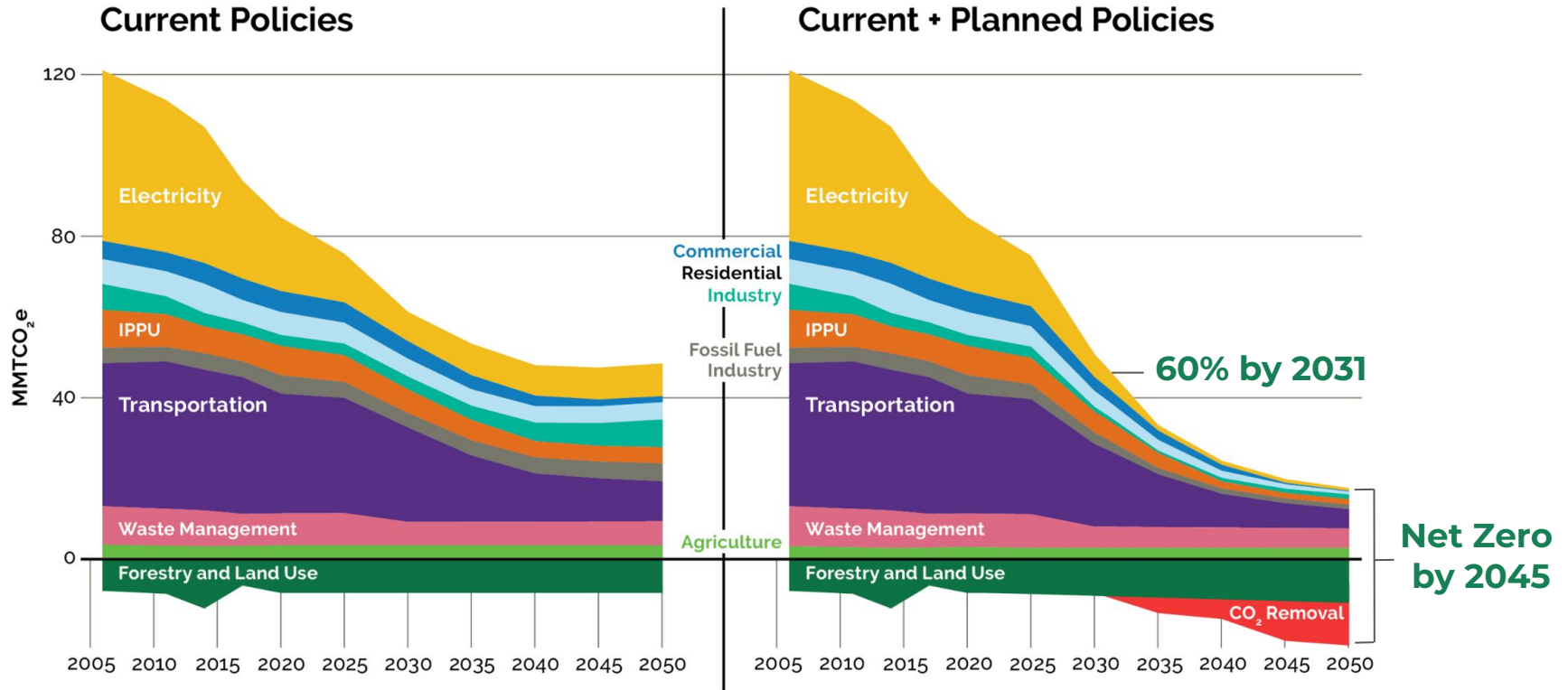
The full plan is available at mde.maryland.gov





Achieving the State's Goals

42 policies that, if fully implemented, will achieve Maryland's goals





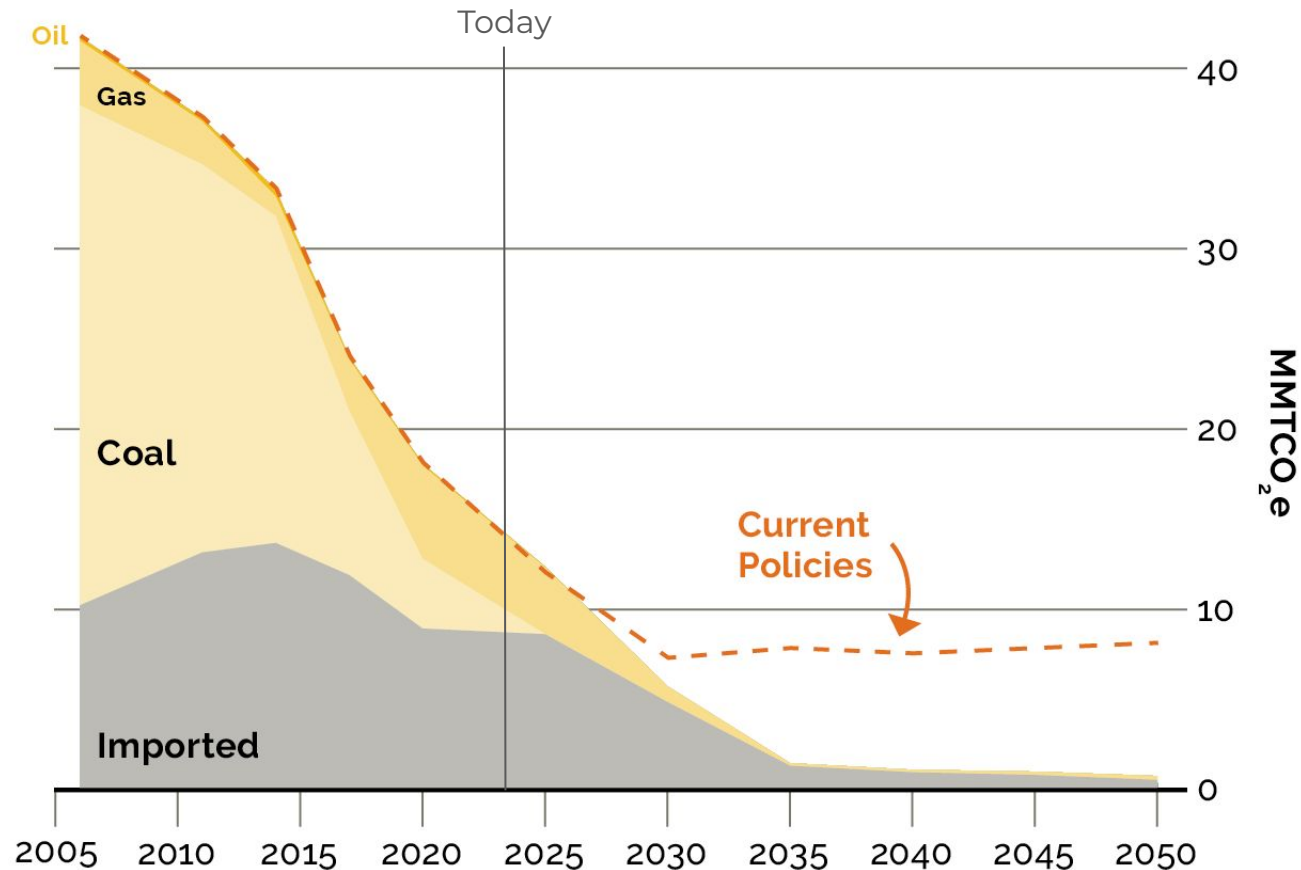
From the Dirtiest Air to the Cleanest

In 2022, Maryland met all national air quality standards for the first time since the Clean Air Act was established over 50 years ago





Greatest Improvements from the Electricity Sector



Emissions from electricity generation plummeted since 2006

Two-thirds of statewide emissions reductions were from this sector

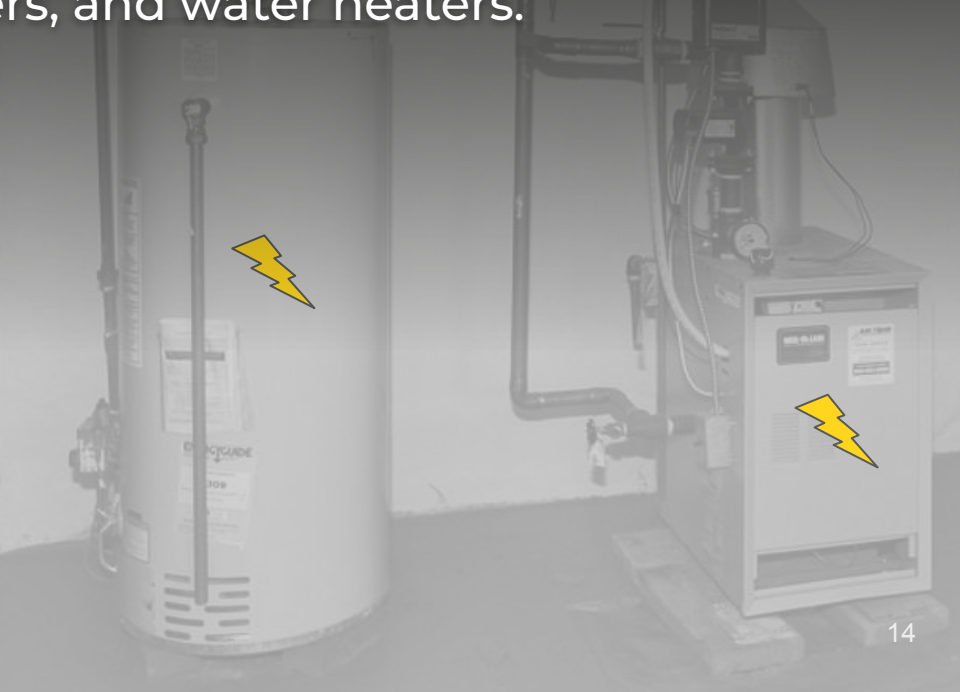
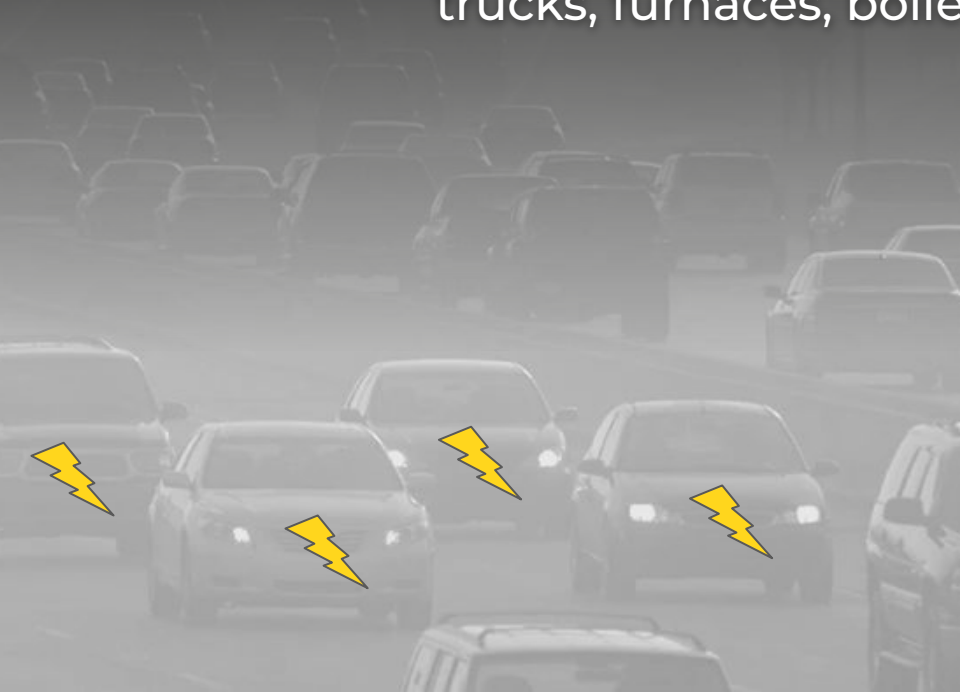
Current policies will further reduce emissions

New policies will provide 100% clean electricity to all Marylanders by 2035



Shifting Focus from Large to Small Sources

To further improve air quality and reduce greenhouse gas emissions, we must **electrify millions of small sources** of emissions including cars, trucks, furnaces, boilers, and water heaters.





Electrification is Underway



Heat pumps started outselling gas furnaces in the U.S. in 2022

The best-selling car in the U.S. in 2023 was an EV

Electric devices are increasingly powered by clean electricity



Can the Grid Handle It?

Yes.

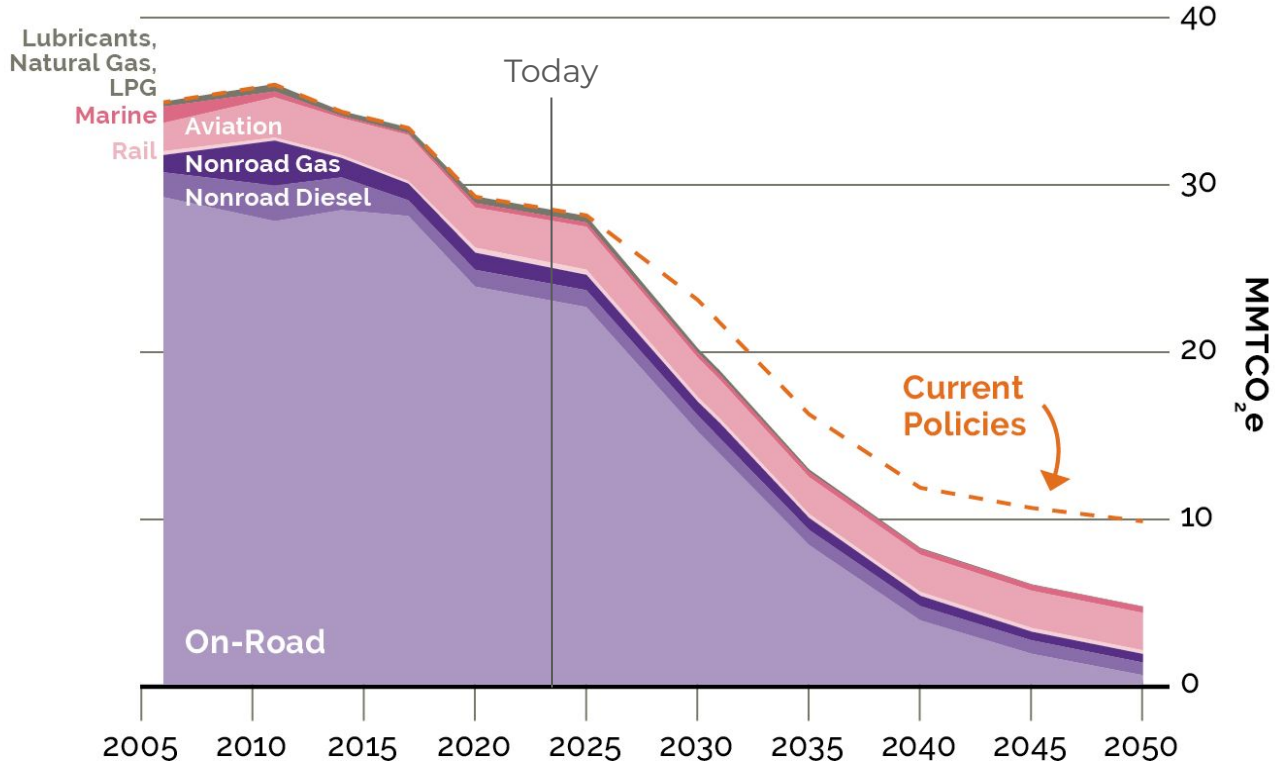
The Climate Solutions Now Act required the Maryland Public Service Commission (PSC) to study this issue.

The PSC study found that efficient electrification of buildings and vehicles will require modest electric grid investments below historic levels.





Transportation Decarbonization is Driven by Electrification

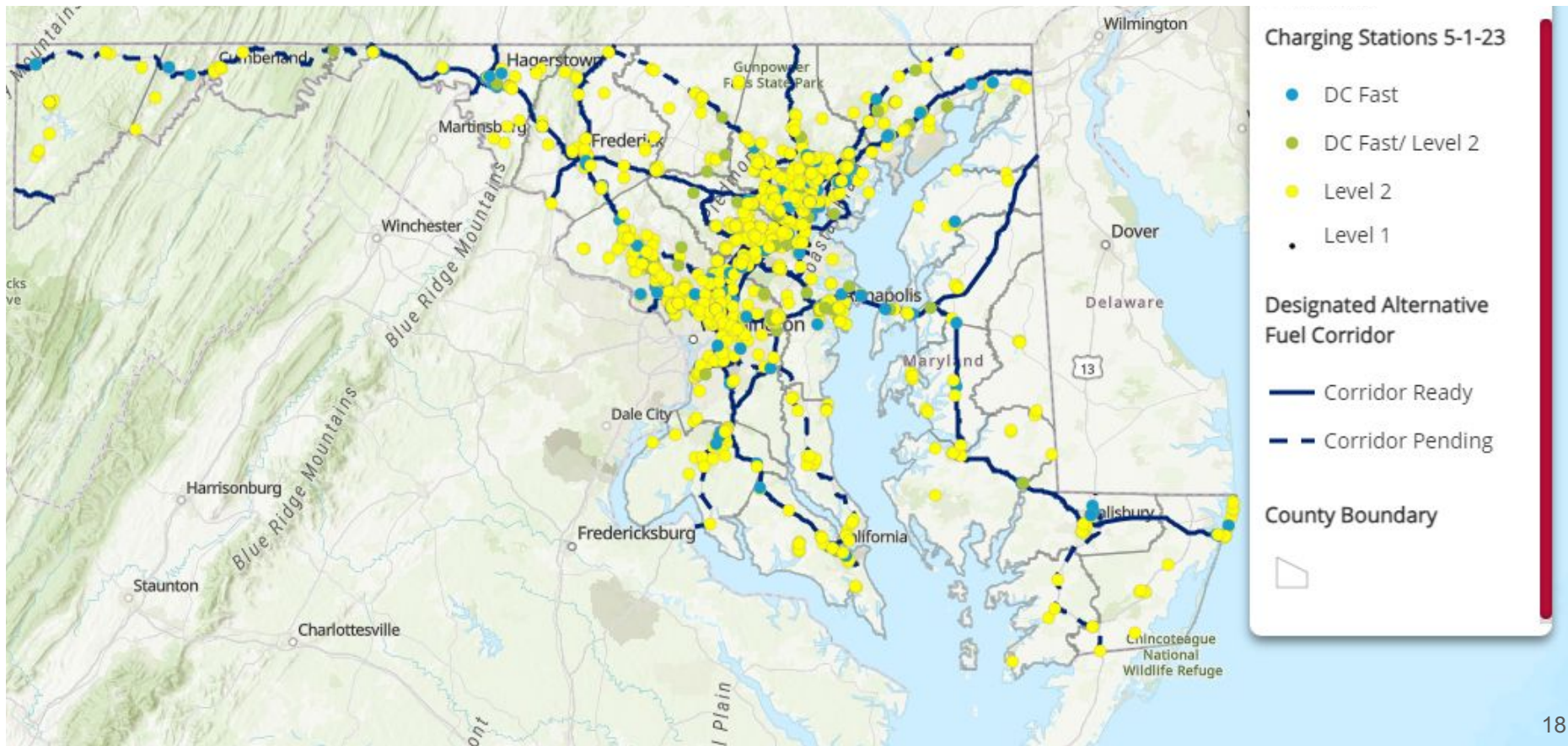


Advanced Clean Cars II and Advanced Clean Trucks guide the transition to zero-emission electric cars and trucks

MDOT's efforts to develop **transit projects** and **reduce vehicle miles traveled (VMT)** will further reduce emissions

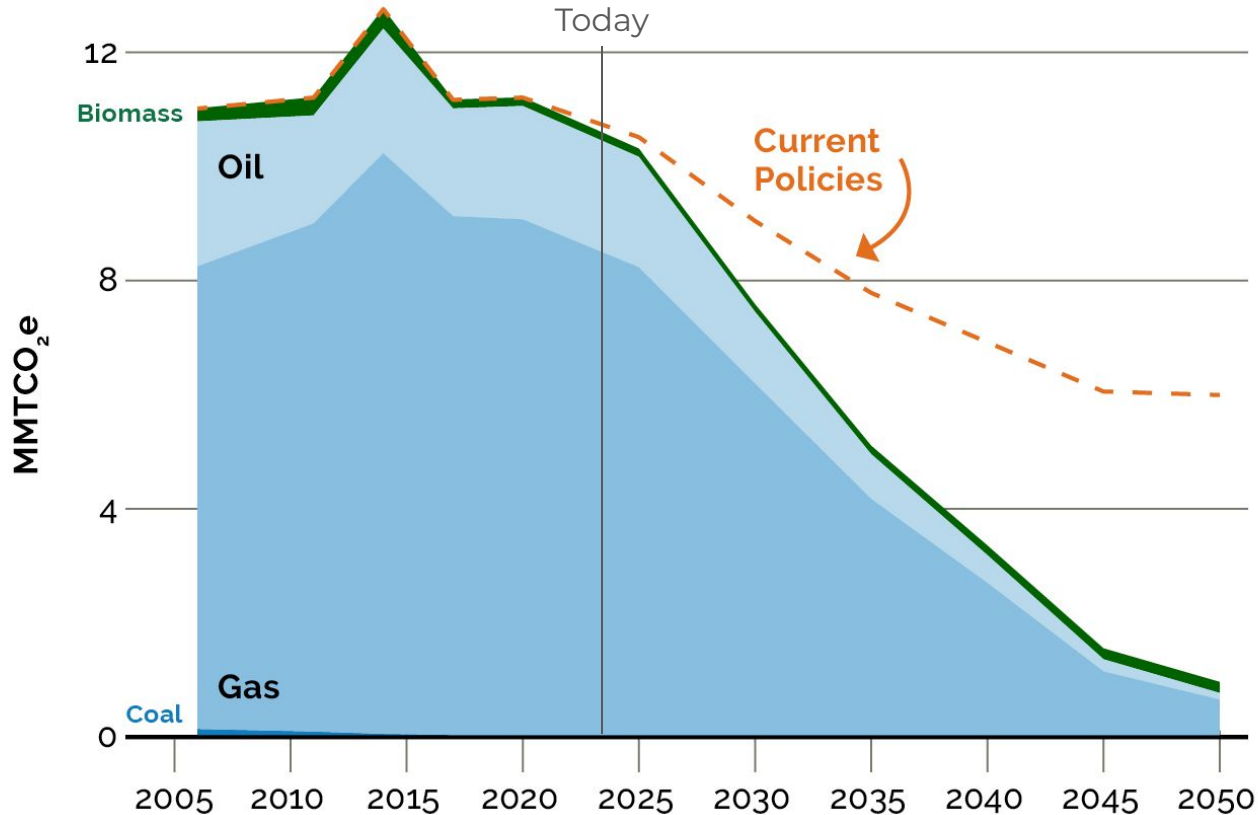


Maryland's EV Charging Network is Poised for Additional Growth





Building Decarbonization is Driven by Electrification



Building Energy Performance Standards and federal incentives for heat pumps reduce emissions, but not enough

New policies such as **Zero-Emission Heating Equipment Standards** and **Clean Heat Standards** will reduce emissions fast enough to achieve the state's goals



Electrification Creates Local Jobs

Upgrading a boiler to a heat pump is work that can't be outsourced

Implementing this Plan will create an additional **27,000 jobs** in Maryland between now and 2031

Electricians and heat pump installers are among the job sectors that will see strong demand





Lower Energy Costs



The average Maryland household saves **\$2,600** annually by using heat pumps and EVs instead of gas appliances and gas cars

Savings increase to **\$4,000** annually for households that switch from oil or propane to heat pumps and EVs



Take Advantage of Existing Federal Tax Credits

Home Energy Audits

30% tax credit up to \$150

Zero-Emission Appliances

30% tax credit



Solar Panels

30% tax credit with no maximum limit

Home Insulation

30% tax credit with no maximum limit



Zero-Emission Vehicles

Up to \$7,500 for new EVs,
\$4,000 for used EVs





Amping Up Electrification with Rebates

Rebates will be available starting in 2024 for low, moderate, and middle-income households.



\$8,000 rebate
Heat pump HVAC



\$4,000 rebate
Electric panel
upgrade



\$2,500 rebate
Electric wiring



\$1,750 rebate
Heat pump
water heater



\$840 rebate
Electric stove
or cooktop



\$840 rebate
Heat pump
clothes dryer

This Plan proposes to keep electrification rebates flowing when federal funding runs out.



Potential Funding Sources

Federal grants and loans

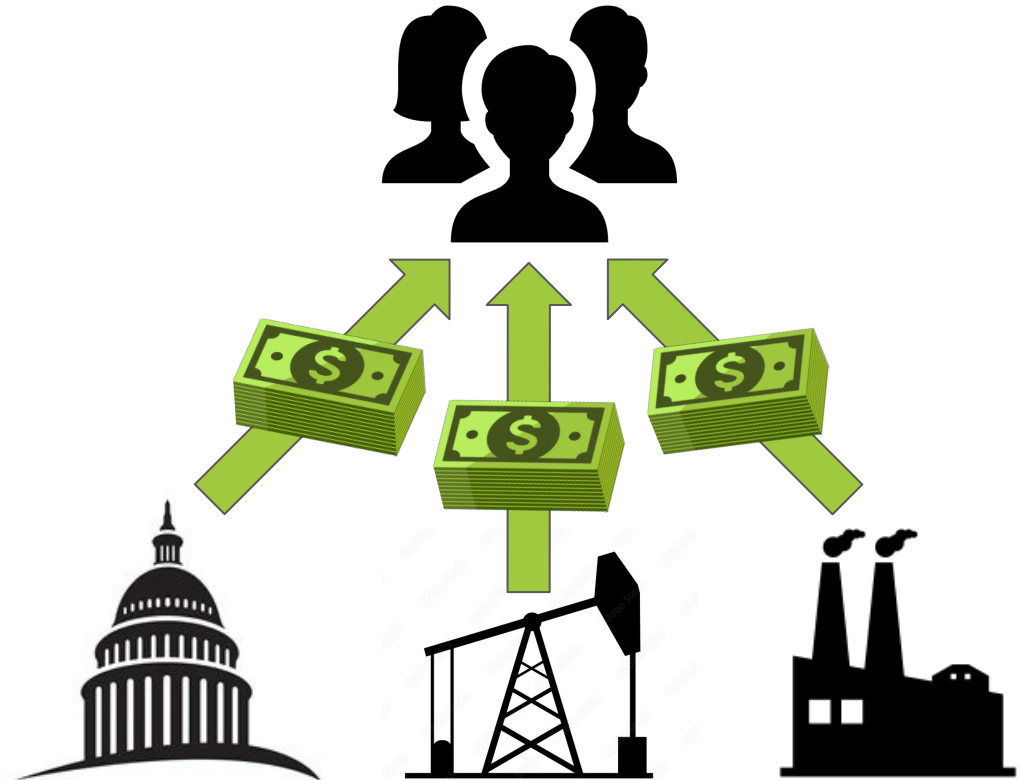
Green revenue bonds

Cap and invest program

Carbon fee

Hazardous substance fee

Fees on fuel-burning vehicles

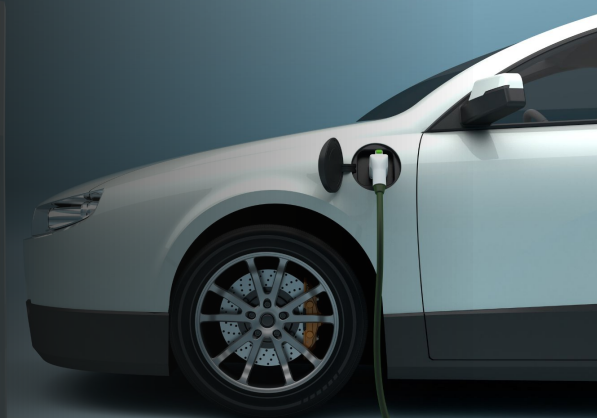
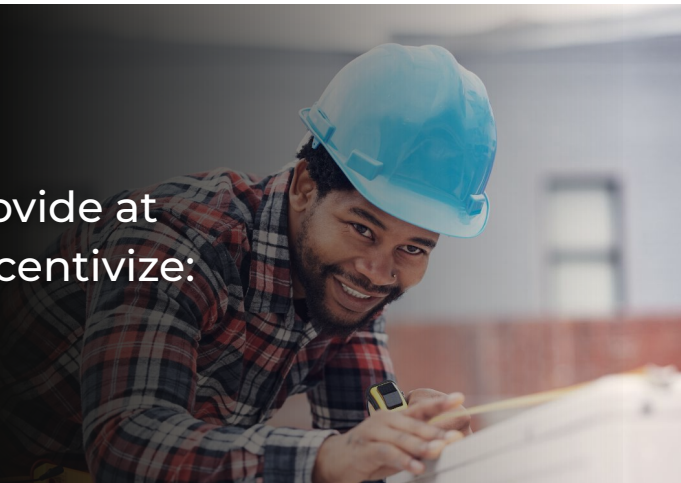




New Investments

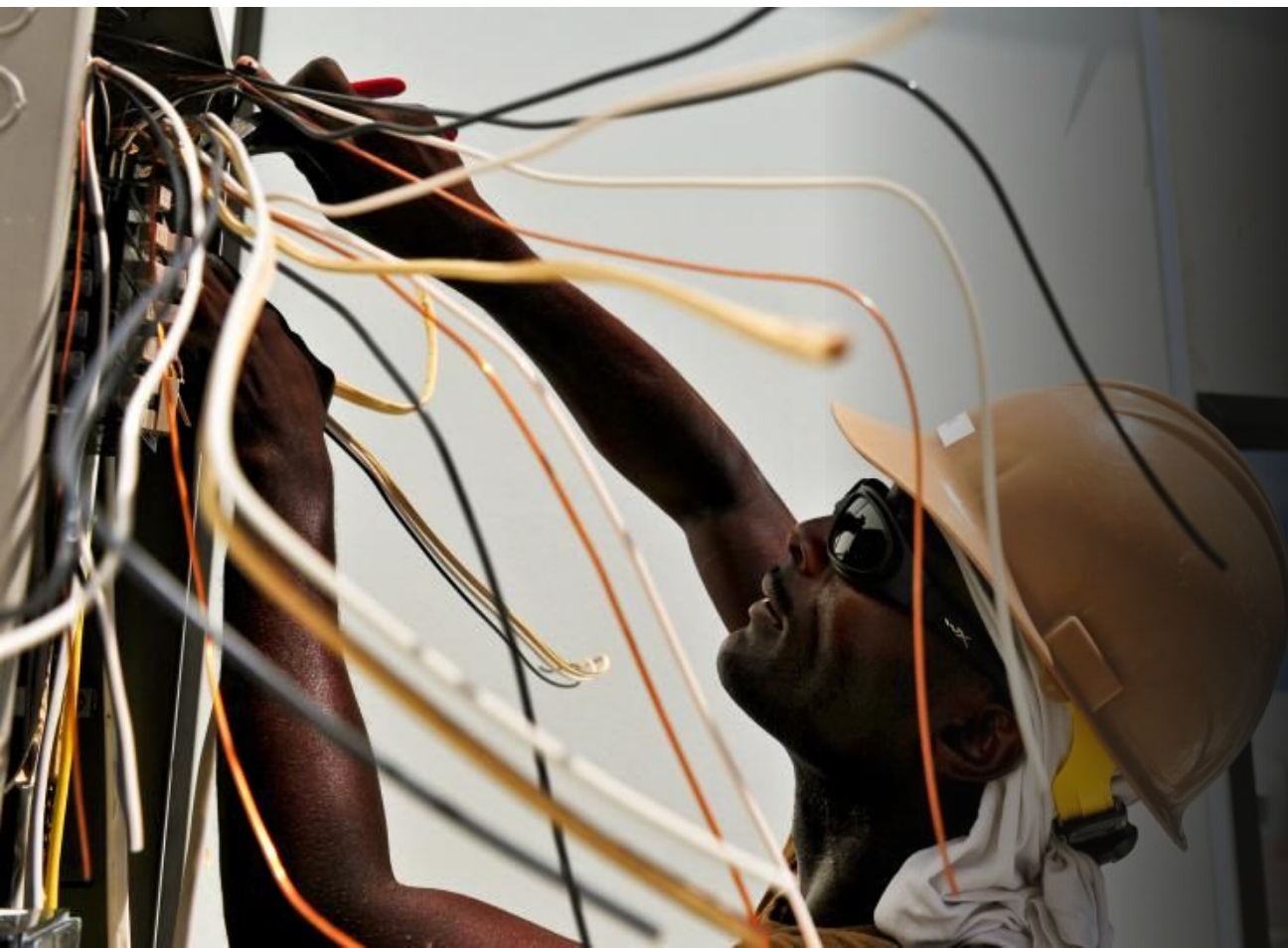
With new funding sources established, the state will provide at least **\$1 billion** annually to incentivize:

- Building electrification
- Transitioning to EVs
- Industrial decarbonization
- Workforce development
- and more





Economic Benefits



In addition to lowering household energy costs and creating 27,000 jobs, this Plan will also

increase total personal income by \$2.5 billion

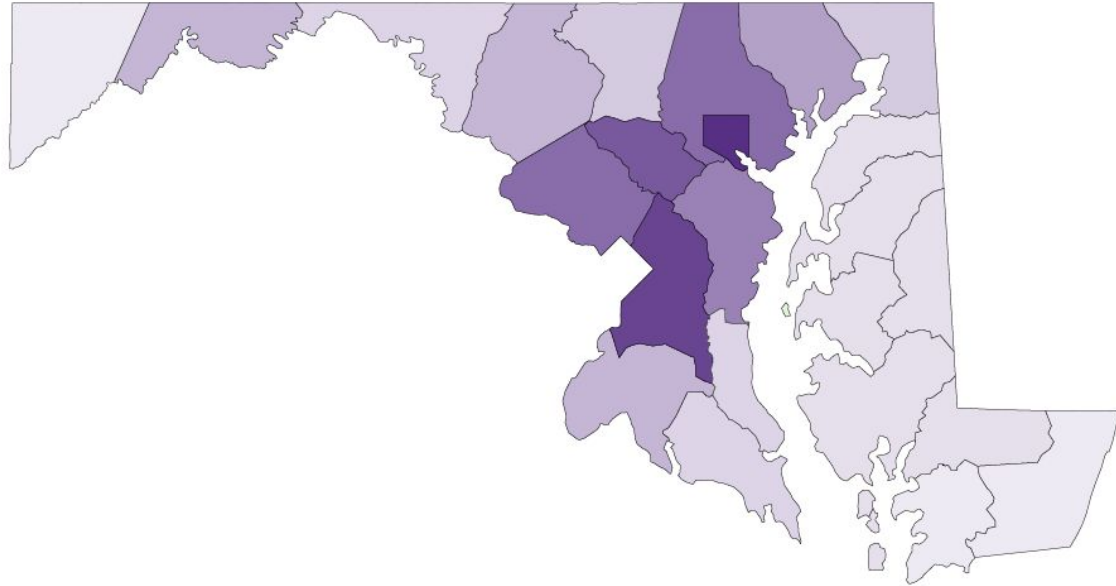
and grow Maryland's **gross domestic product by \$5.3 billion** between now and 2031



Health Benefits

This Plan delivers between **\$142 million and \$321 million** in additional health benefits in 2031 compared to current policies

Most of the health benefits occur in historically disadvantaged communities





Global Benefits

Maryland's new policies are modeled to reduce emissions by **646 million metric tons of carbon dioxide equivalent (MMTCO₂e)** between now and 2050

The global benefit is estimated to be **\$135 billion!**





Next Steps

- Maximize federal funding opportunities
- Launch & implement regulatory processes
- Coordinate with the Maryland Commission on Climate Change
- Evaluate funding mechanisms

Please read the full plan at mde.maryland.gov

Part 3

Introduction and Discussion of Study and Work Plan