

GREENHOUSE GAS EMISSIONS REDUCTION – FACT SHEET

There are several ways Delaware can take action to minimize greenhouse gas (GHG) emissions, which drive the climate change we see today. Through the Climate Action Plan process, the Department of Natural Resources and Environmental Control (DNREC) engaged a consultant team to model the GHG reduction potential of specific actions. These actions have been grouped into broader categories for ease of communication. The category name, a description of what is included in each category, and each category's GHG reduction potential in the year 2050 are provided in the tiles below.



Renewable Energy

2050 GHG Reduction Potential = 4,333,200 MTCO_{2e}

Efforts to increase the amount of clean, renewable energy (such as wind and solar) on the electricity grid has the largest long-term potential to reduce emissions. Strategies include:

- Increasing the number of homes and businesses with solar panels
- Increasing solar and geothermal systems on industrial properties
- Phasing out fossil fuels in utility scale electric generation



Zero-Emission Vehicles

2050 GHG Reduction Potential = 1,184,500 MTCO_{2e}

Zero-emission vehicles (ZEVs) rely on electricity or hydrogen fuel cells to power them, creating no direct emissions. As our electric supply comes increasingly from renewable sources, electric vehicles (EVs) will increasingly be free of emissions. Strategies include:

- Providing more EV charging infrastructure
- Consumer incentives for purchasing ZEVs
- Increasing the number ZEVs in the state fleet



Building Energy Efficiency

2050 GHG Reduction Potential = 732,200 MTCO_{2e}

Reducing the amount of energy we need to power our homes, offices and industries is an easy way to reduce energy demand. Strategies include:

- Increasing the energy performance standards that new buildings must meet
- Providing incentives to upgrade existing building systems and envelope
- Identifying operational efficiencies to save money



Fuel and Roadway Efficiency

2050 GHG Reduction Potential = 649,800 MTCO₂e

The transportation sector currently accounts for about a third of GHG emissions in Delaware. Along with more zero-emissions vehicles, reducing the amount of fuel used by vehicles already on the road is critical. Strategies include:

- Improving the efficiency with which we transport goods and materials
- Enhancing public transit options and creating more bikeable and walkable neighborhoods



Building Electrification

2050 GHG Reduction Potential = 545,700 MTCO₂e

Building electrification is the shift from fossil fuel-powered appliances (gas and propane furnaces and hot water heaters) to clean electric appliances (electric heat pumps and hot water heaters), ideally powered by renewable energy. Strategies include:

- Transitioning existing buildings to utilize an all-electric energy source for heating and cooling spaces and water
- Moving the electricity grid toward 100% clean, renewable energy to multiply the impact of electrification



Waste Diversion and Reduction

2050 GHG Reduction Potential = 211,400 MTCO₂e

Diverting and reducing waste applies to the entire life cycle of the goods we buy and use – from the energy, water and raw materials required to make them to the emissions associated with tossing them in landfills. Waste diversion strategies include:

- Reducing the amount of new materials we need to create by promoting the reuse of existing products
- Enhancing opportunities to compost and recycle those materials we cannot reuse

Key Terms

Greenhouse Gases: Greenhouse gases (GHGs) are vapors in the atmosphere that trap heat around the earth (such as carbon dioxide). When we use fossil fuels like coal, natural gas and oil to power our homes, businesses and vehicles, we release even more GHGs into the atmosphere. Humans have released a significant amount of GHGs since the mid-1800s, and this has led to rising temperatures and other changes in our earth and climate.

Metric Tons of Carbon Dioxide Equivalent (MTCO₂e): Each greenhouse gas (GHG) has a different ability to trap heat in the atmosphere. We can compare each GHG's heat-trapping ability to that of the GHG carbon dioxide (CO₂). This is called the CO₂ equivalent (CO₂e) and allows us to use a single measure to calculate all GHG emissions: metric tons of CO₂e (MTCO₂e).