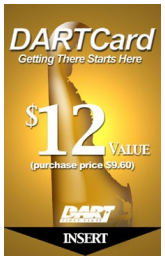
Ways to Reduce GHG Emissions



Source: DART

1. Leave Your Car at Home

Using alternatives such as carpooling, transit, walking, or biking just one day a week for a year can save typical commuters about 1,200 miles on their vehicles and reduce greenhouse gas emissions by over half a ton per year.

2. Live Closer to Work

Reduce your daily commute time by choosing a place of residence that is within walking or biking distance or served by transit.

3. Choose a Home in a Complete Community

Choose a place of residence that is in a complete community meaning there is accessibility and non-vehicular mobility to a variety of needs.

4. Consume Less

Consuming less goods can reduce the number of freight trips and personal vehicular trips required which lowers overall emissions.

5. Buy a Fuel-Efficient Vehicle

Go to www.fueleconomy.gov to get information on the most fuel-efficient vehicle that meets your needs.

6. Telecommute

Work at home when feasible. This can save you time and money as well as reduce traffic congestion and greenhouse gas emissions.

7. Trip Chain

Plan your trip ahead of time so that you can combine errands into one trip. This saves time, money, and reduces vehicle miles traveled.

8. Drive Smart

Avoiding aggressive driving behaviors such as speeding, rapid acceleration, and braking which can lead to more efficient use of fuel.

9. Maintain Your Vehicle

Keep your vehicle maintained to increase fuel-efficiency, safety, and lifetime of the vehicle.

10. Spread the Word

Passing on these tips to addressing climate change can help make a big difference in reducing greenhouse gas emissions and global climate change.

Regional Climate Change Initiatives

DELAWARE


Source: Peggy Schultz

- Reducing Transportation Energy Use Workgroup
- Delaware Energy Plan
- Delaware Climate Action Plan
- Delaware Coastal Program

To access DNREC's Climate Change website, search "Climate Change and Delaware".

MARYLAND


Source: MDNR

- Maryland Climate Change Advisory Group
- Maryland Commission on Climate Change
- Comprehensive Strategy for Reducing Maryland's Vulnerability to Climate Change
- Maryland's Chesapeake and Coastal Program

To access MDNR's Climate Change website, search "Maryland Department of Natural Resources and Climate Change".

For more information please visit:

www.wilmapco.org/climate-change

WILMAPCO

Transportation and Climate Change


Source: Peggy Schultz

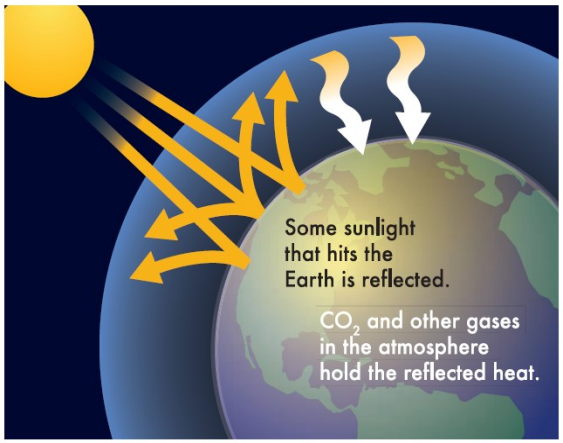
Wilmington Area Planning Council

For more information please visit:

www.wilmapco.org/climate-change

What is the Greenhouse Effect?

The greenhouse effect is a result of greenhouse gases (GHGs) trapping the sun's energy in the Earth's atmosphere by absorbing and reflecting some of the energy to Earth rather than allowing it to escape back into space. The greenhouse effect is essential to maintaining a temperature that supports life on Earth.



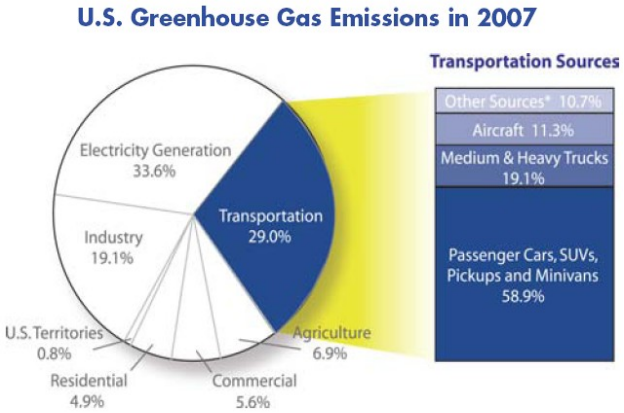
Source: FHWA

Human Influence

Natural cycles of warming and cooling have occurred throughout the Earth's history. However, as a result of human activities, levels of GHGs have intensified the greenhouse effect beyond what can be attributed to these natural cycles, leading to increases in average global temperature.

A significant source of GHGs is fossil fuels, which include carbon dioxide, methane, nitrous oxide, and ozone. Alterations in weather patterns resulting from the greenhouse effect are known as climate change. While difficult to predict, serious consequences can result from climate change.

Role of Transportation in Climate Change



*Other sources include waterborne (5.2%), rail (2.7%), pipelines (1.6%), buses (0.6%), lubricants (0.5%) and motorcycles (0.1%).

Source: FHWA

Impacts on Transportation

Climate change could lead to significant impacts on transportation systems. In response, WILMAPCO is assessing the impacts that Sea-level Rise (SLR) may have on transportation infrastructure in future decades. In doing so, we are introducing climate change adaptation into our planning process and are carrying forth SLR work in Maryland and Delaware.

Adaptation strategies such as those listed below can be used to address the potential impacts of SLR.

- Elevate facilities
- Relocate sections of roads and rail inland
- Fortify with levees, seawalls, and dikes
- Abandon/restrict development in vulnerable coastal areas

For more information, please visit our SLR webpage: **www.wilmapco.org/slr**

Pathways to Reducing Transportation GHGs

There are four primary pathways to reducing GHG emissions from the transportation sector:

1. *Reduce growth of vehicle miles traveled:*

Source: DART

Land use strategies can be implemented that help to concentrate development and ultimately reduce the need to drive. By promoting high-occupancy vehicle lanes, transit options, pedestrian and bicycle facilities, travel demand management programs, and telecommuting, the number of vehicle trips can be reduced.

2. *Improve system and operational efficiencies:*

Strategies to improve traffic flow can be implemented such as intelligent transportation systems, route optimization, congestion pricing, and enhanced intermodal links and system connectivity. In addition, operational efficiencies can be achieved through a number of strategies including reducing idling of freight vehicles and improving vehicle maintenance.

3. *Transition to low-GHG fuels*

Options such as biodiesel and natural gas can be used to replace gasoline and diesel in order to emit fewer GHGs over their lifecycle from production to final use.

4. *Improve vehicle technologies*

Fuel efficient vehicles can be promoted through a number of strategies including policy decisions, tax credit programs, and rebates.

Source: FHWA