



Greenhouse Gas Reduction Goal Update

**Governor's Commission on
Climate Change**

April 22, 2008



Virginia Energy Plan GHG Goal

- 30 Percent reduction in 2025 Business-As-Usual (BAU) Energy Use
- Trending methodology
 - 20-40 year historic trend analyzed for each sector for each fuel type
 - Past trends projected forward and totaled
- Assumes
 - Long-term population growth rate steady
 - Continuing improvement in energy efficiency/energy intensity
 - Same fuel mix – each fuel type grows as total energy use grows



Virginia Energy Plan GHG Goal

- Compound growth rate for energy
= 1.4% per year
- GHG emissions - EIA, Greenhouse Gasses in
the United States methodology
- 2000 = 133 MMte from energy use
- 2025 = 192 MMte from energy use
- 30% reduction = 58 MMte
134 MMte total emissions from energy use in 2025



DEQ GHG Emission Inventory

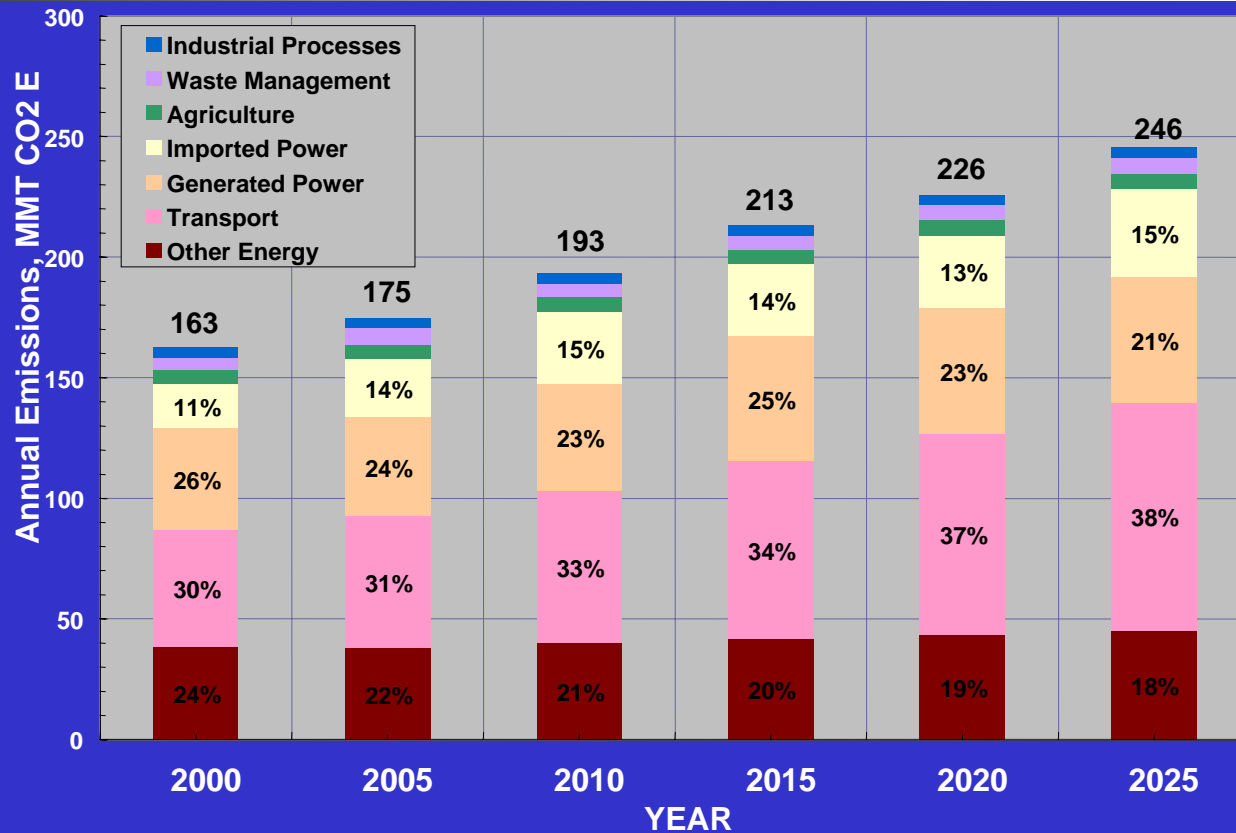
- Includes energy use, industrial, waste, agriculture emissions, imported power
 - CO₂, CH₄, N₂O, PCFs, HFCs, SF₆
- Non-transportation sources (mainly energy)
 - US EPA State GHG Inventory Tool
 - 2000-2005 uses available data
 - Population, energy use by fuel by sector, industrial/mining/agricultural production
 - 2006-2025 projections
 - Power sector based on announced new generating units – imports used to balance load
 - Electricity demand predictions consistent with VEP
 - Other projections from EPA State GHG Inventory Tool



DEQ GHG Emission Inventory

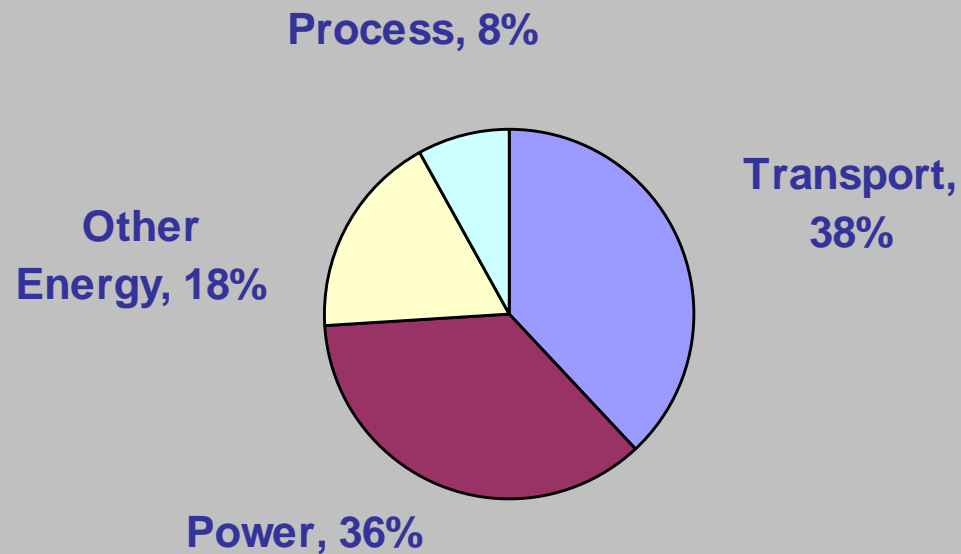
- Transportation
 - US EPA Mobile Source Emission Factor Tool
 - 2000 – 2025 - VDOT projected vehicle activity data for highways
 - Non-highway projected from historic energy use
- 2000 = 163 MMte
 - 141 MMte from energy use
- 2025 = 246 MMte
 - 209 MMte from energy use
- 30% reduction = 74 MMte
 - 172 MMte total emissions in 2025

Projected Emissions Growth 2000 to 2025 – DEQ Inventory



Growth Rates: Total inventory = 1.7% per year
 Transportation = 2.7% per year
 Other Energy = 1.3% per year

Projected Emissions by Sector 2025 – DEQ Inventory





GHG Reduction Goal

- Questions:
 - What was the intent of the Governor's GHG reduction goal?
 - What should be the basis for this goal?
 - How does the 2000 base year fit in?



GHG Reduction Goal

- Answers:
 - Reduce GHG emissions from the 2025 BAU case by 30%
 - The latest comprehensive inventory should be used
 - CY 2000 was only used to put reduction into historical context