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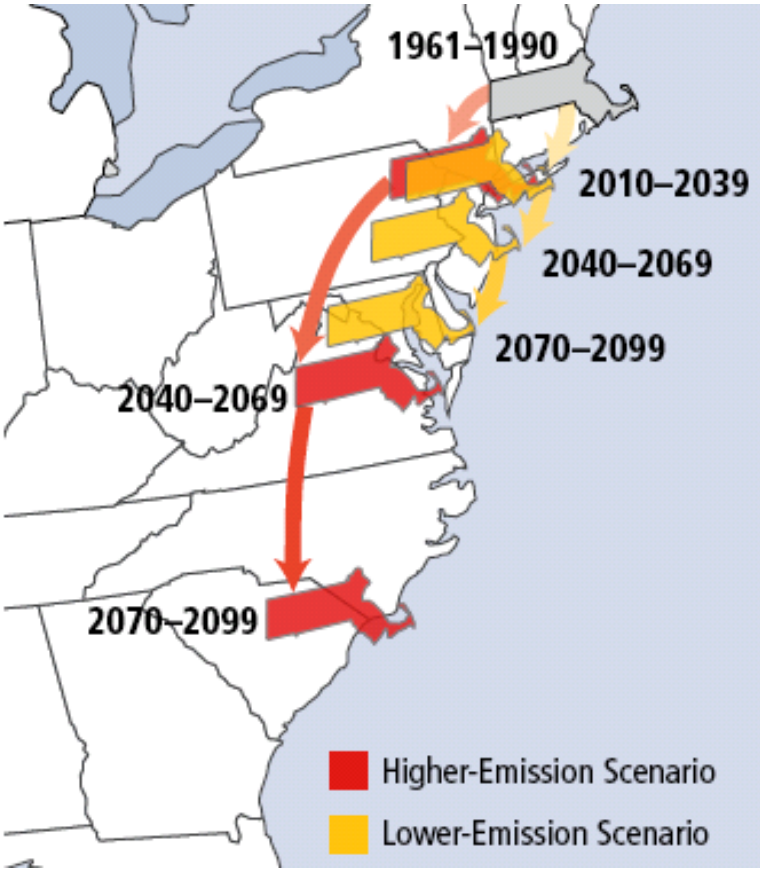
Massachusetts: National Leadership in Climate and Energy Policy

The Global Warming Solutions Act of 2008: Climate Protection and Green Economy Act – Chapter 21N

Climate Change: Massachusetts Impacts



Source: UCS, 2007

- Rising Sea Levels →
  - Coastal Erosion
- Warmer Water →
  - Degraded Habitats
- Hotter Summers →
  - Cranberry Industry and Agriculture Impacts
  - Health Impacts
  - More Droughts
- Warmer Winters →
  - Less Maple Syrup
  - Less Snow/ Skiing

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Background

The 2008 Legislative Session resulted in five nation-leading pieces of legislation that put Massachusetts at the national forefront addressing climate and building a clean energy economy.

- **Improving energy reliability & security**
- **Lowering energy costs**
- **Growing clean energy jobs and businesses**
- **Addressing climate change**

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The Global Warming Solutions Act

- Mandatory Reporting of GHG Emissions
- Track Statewide GHG Emissions
- Develop 1990 Baseline and 2020 BAU Projection
- Develop Plans to Achieve Statewide Reductions
- Convene Advisory Committees: Climate Change Adaptation and Climate Protection and Green Economy

Climate Change Adaptation Advisory Committee

- Analyze strategies for adapting to predicted impacts of climate change
- Report due to December 31, 2009
- Private/public subcommittees
  - Natural Resources and Habitat
  - Local Economy
  - Human Health and Welfare
  - Key Infrastructure
  - Coastal Zone and Oceans
- First meeting: June 4, 2009

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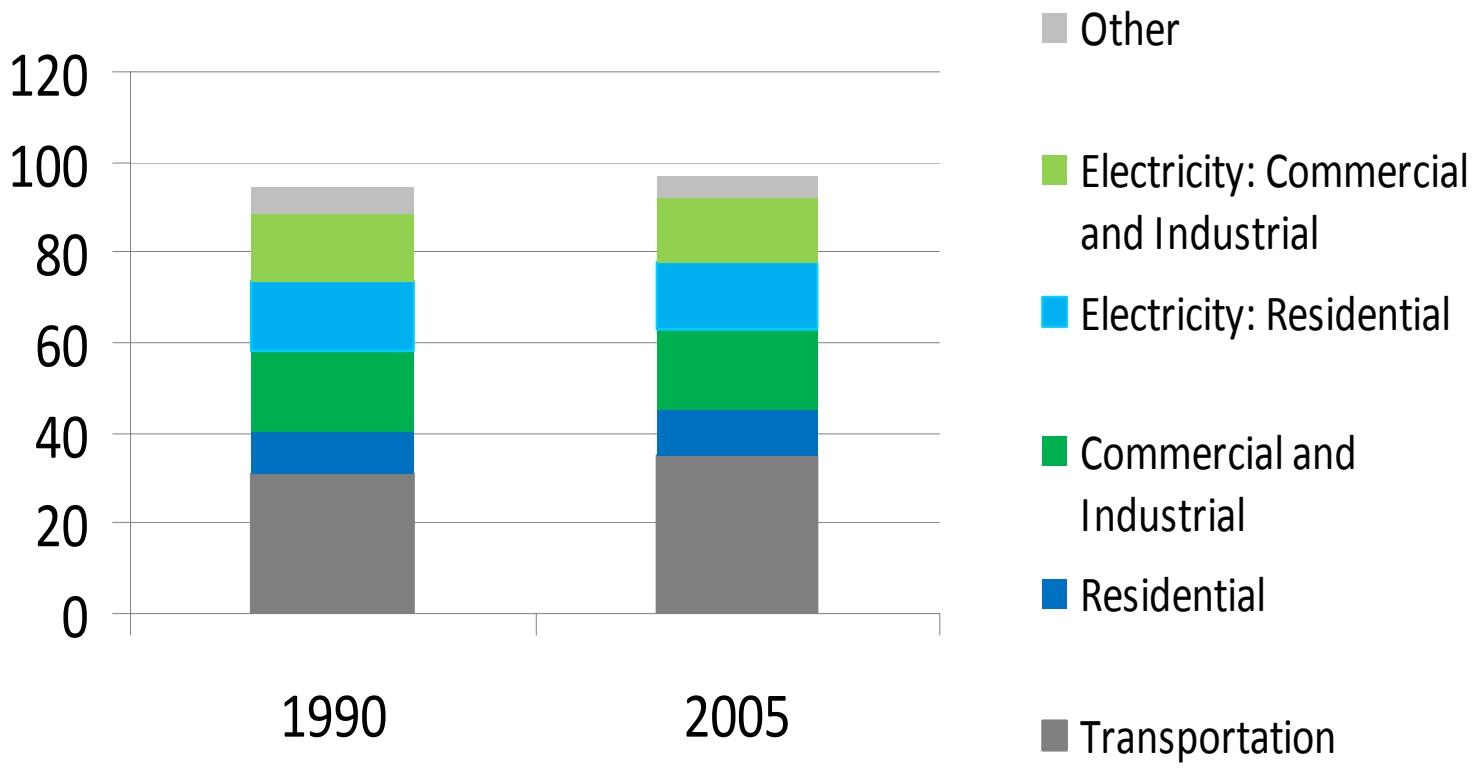
Climate Protection and Green Economy Advisory Committee

- Members represent all sectors of the economy and key stakeholders, including
  - commercial, industrial, manufacturing, transportation, low-income consumers, energy generation and distribution, environmental protection, energy, local government and academia
- Advise EEA on development of the Commonwealth's economy-wide plan to meet the goals of the Act using strategies that combat climate change and drive job creation and economic prosperity
- First meeting: May 11, 2009

Massachusetts GHG Emissions by sector



"Other" includes Agriculture, Waste, and Natural Gas transmission and distribution

GHG Emission Reduction Targets and Plans

- Statewide GHG emissions limits:
  - 2020 emission limit - 10-25% below 1990 level
  - Interim 2030 emission limit
  - Interim 2040 emission limit
  - 2050 emission limit - at least 80% below 1990 level
- Economy-wide emission reduction plans

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GWSA 2010-2013 Milestones

- 1/1/11 – Executive Office of Energy and Environmental Affairs (EEA) Set Reduction Target for 2020, Including Plan to Achieve Target
- 1/1/12 – MassDEP Promulgate Regulations for 2020 Plan
- 1/1/13 – Regulations to Take Effect

State Agency Climate Policy Workgroups

- Development patterns and travel behavior
- Materials and waste management
- Transportation vehicle efficiency
- Buildings energy efficiency
- Industrial energy efficiency
- Low-carbon fuel supply
- Energy sector GHG sequestration
- Industrial process emissions (non-energy)
- Agricultural emissions
- Forests and land-use change
- Economy-wide price of carbon
- Modeling/analytical support

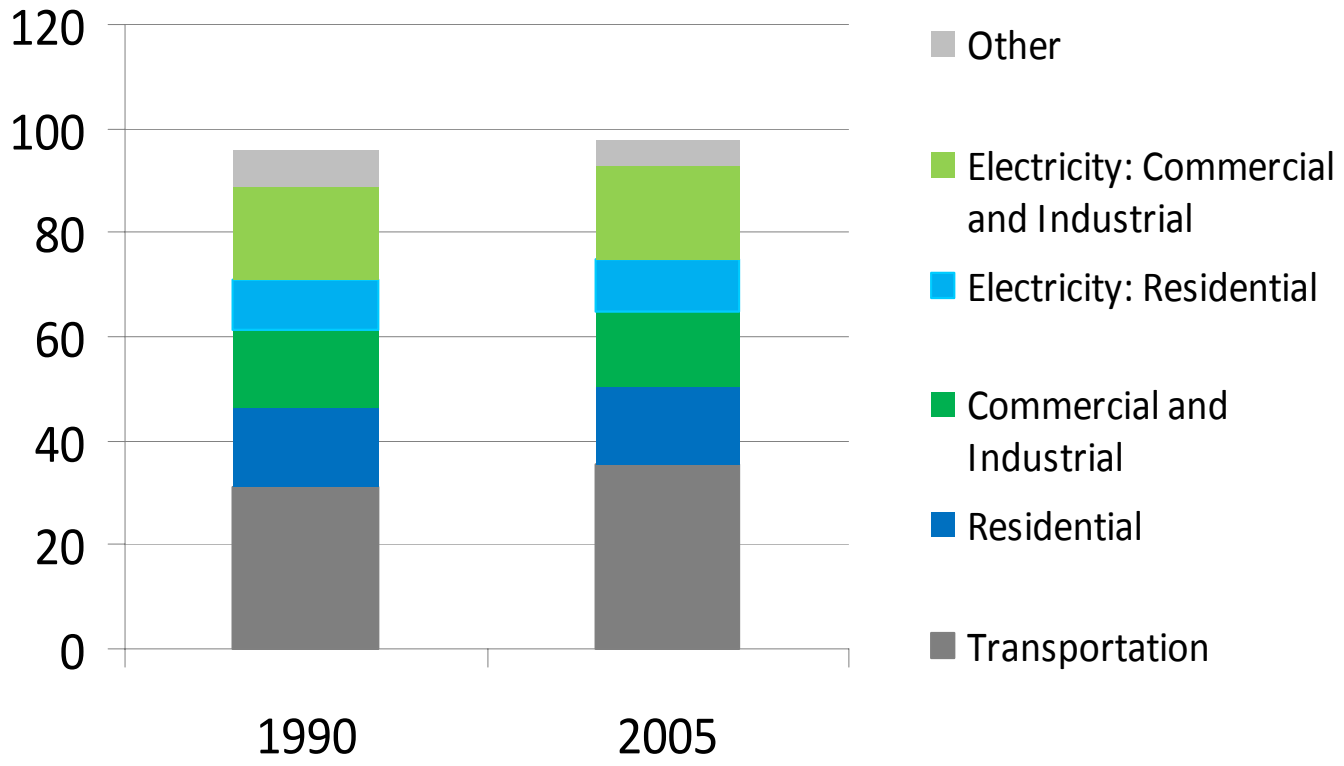
What is Ahead for GWSA

- Evaluate Economy-Wide Policy Options to Obtain GHG Reductions
  - State Agency Work Groups
  - Public Discussions with Experts: July 7-17, 2009
  - General Public Meetings: Fall 2009
- Spring/Summer 2010 – Public Meetings to Discuss Proposed 2020 Reduction Targets and Plan
- CPGE Advisory Committee Meetings: Sept. 16, 2009, December 9, 2009, March 24, 2010
- CC Adaptation Advisory Committee Meetings: July 30, 2009, September 9, 2009, October 20, 2009

Climate Policy Workgroup

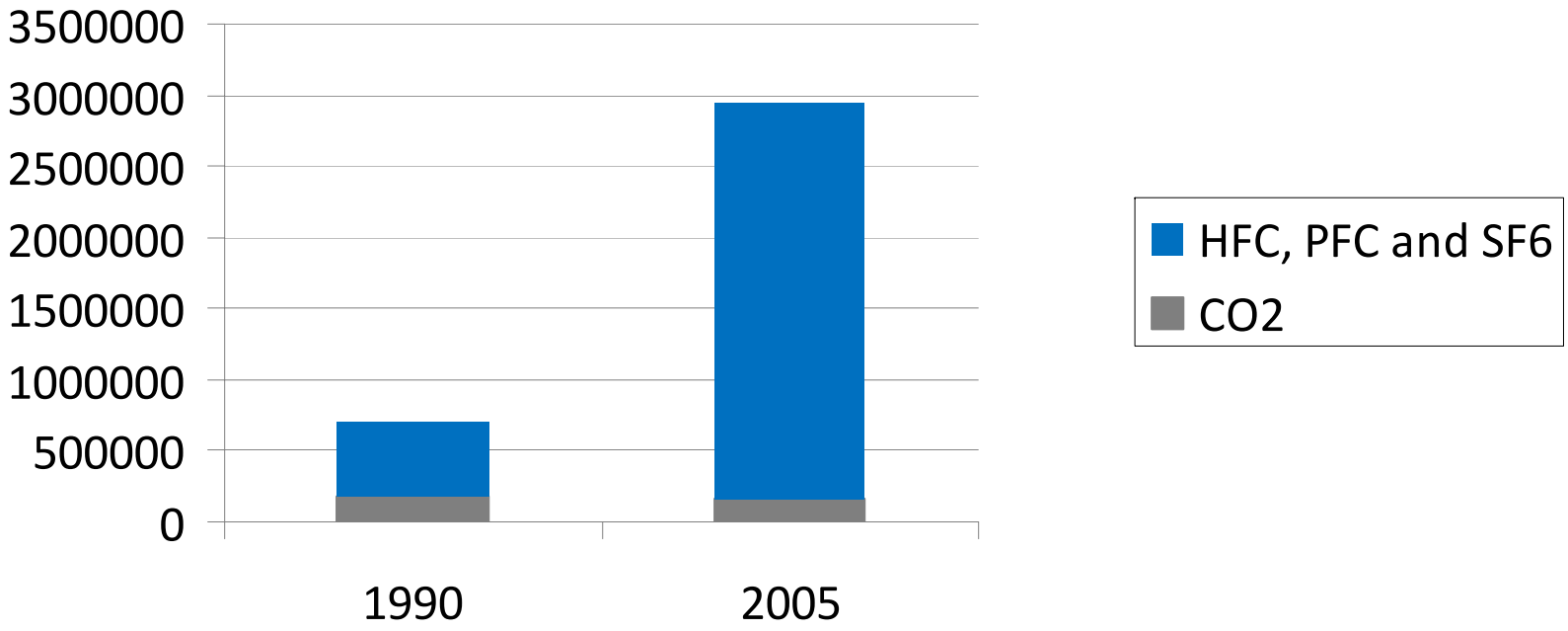
- Industrial process emissions (non-energy)
- Also covers “other” emissions sources – from non-industrial sources: commercial, consumer products

Massachusetts GHG Emissions by sector

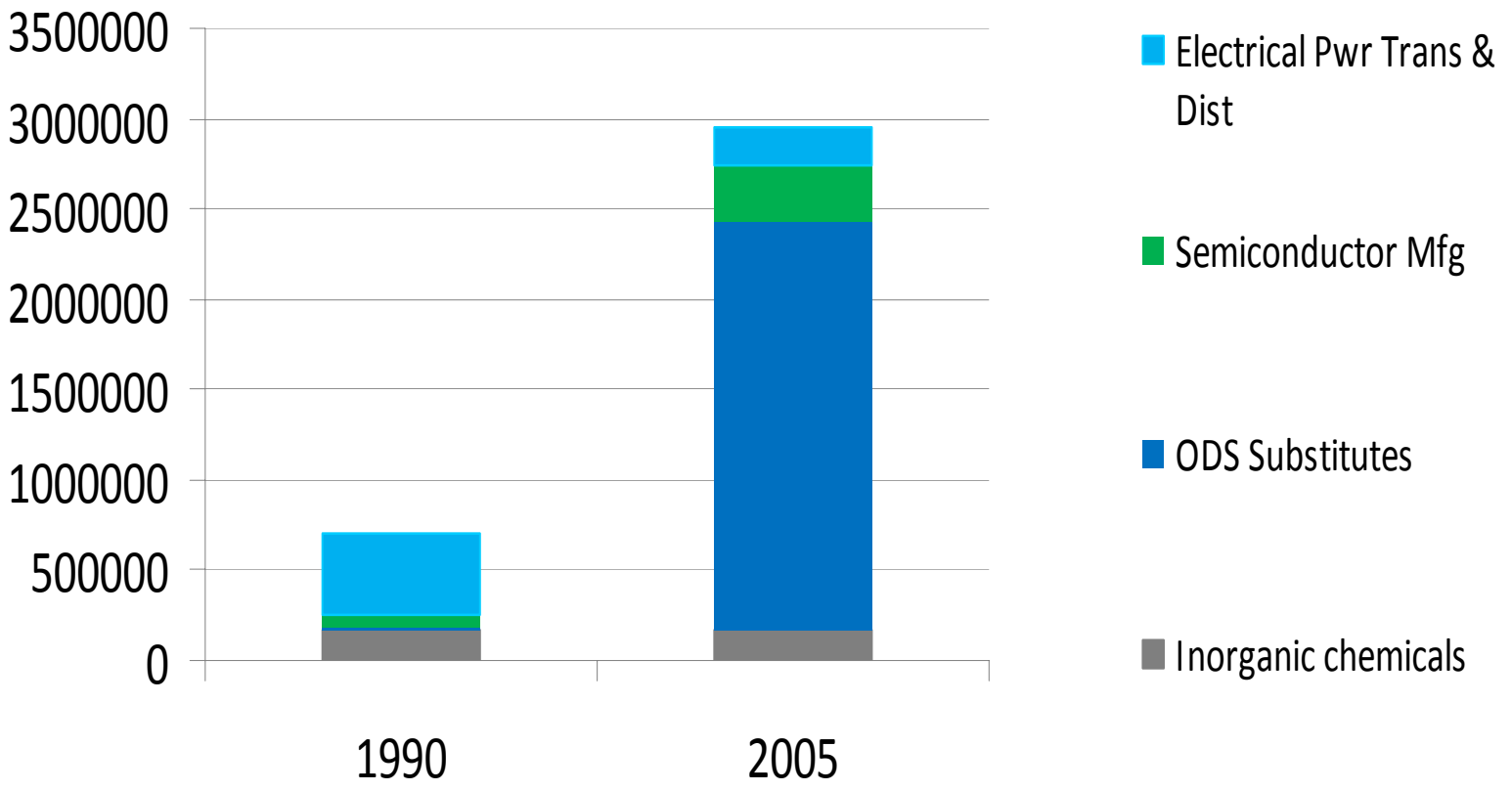


*"Other" includes Agriculture, Waste, and Natural Gas transmission and distribution

Massachusetts GHG Emissions from Industrial Process and other high Global Warming Potential gases



Massachusetts Industrial Process and high GWP GHG Emissions by sector



Example Industrial Process & High GWP GHG Reduction Policies

- PFC & SF6 emissions reductions from semiconductor manufacturing
- HFC emissions from mobile air conditioning (MAC) systems
- Low GWP refrigerants for new vehicle MAC
- High-GWP consumer products: aerosols
- Residential refrigeration
- Commercial refrigeration
- Foam recovery and destruction

What's going on in California with such policy developments?

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- Industrial End Use Efficiency Group - direct GHG emissions from the burning fuels for process heat
- Also covers “other” indirect emissions from electric power uses such as pumps and motors

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Example Industrial Sectors

- Pulp and Paperboard Mills
- Textile and Fabric Finishing
- Coated and Laminated Paper Manufacturing
- Asphalt Paving and Block Manufacturing
- Pharmaceutical Preparation
- Petroleum Bulk Stations
- Pipeline Transportation of Natural Gas
- Plastic Injection Molding
- Water and Wastewater Treatment
- Forging