CT GHG Inventory Update

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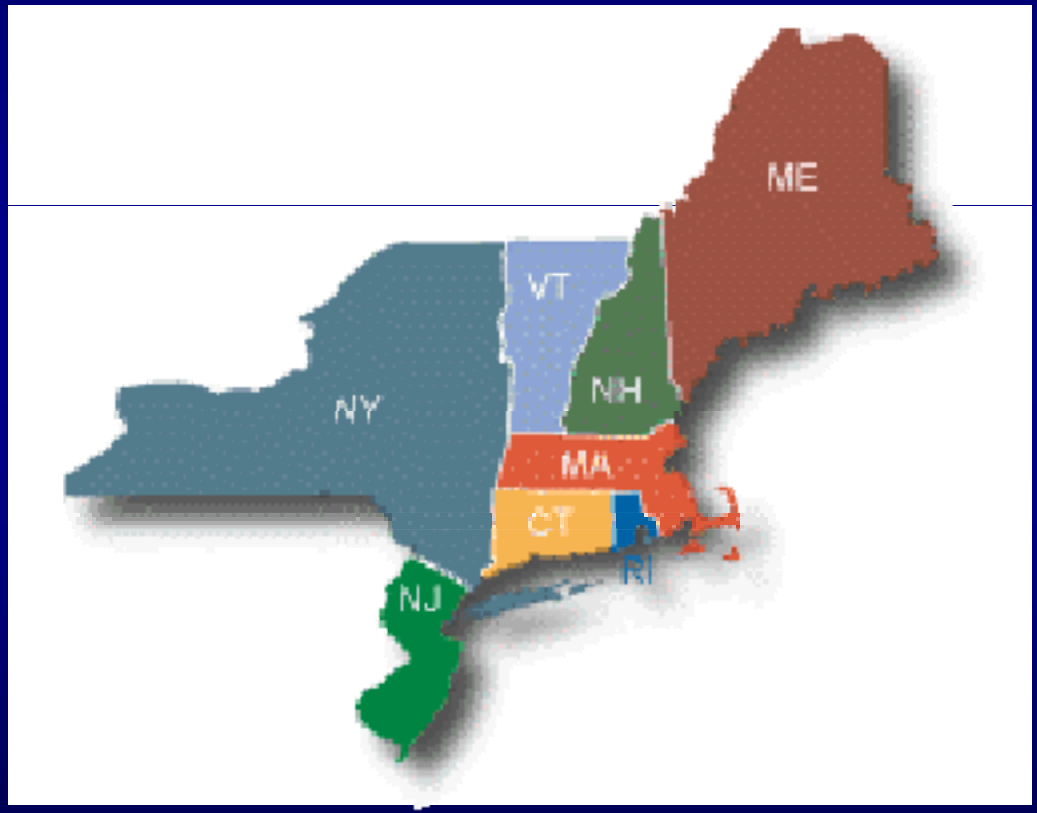
May 14, 2009

NESCAUM

- Northeast States for Coordinated Air Use Management
- Association of 8 Northeast state air agencies
- Technical and policy support for air quality & climate initiatives
- Formed in 1967

Member States

Connecticut
Maine
Massachusetts
New Hampshire
New Jersey
New York
Rhode Island
Vermont



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CT GHG Inventory Update

1. Rationale & Approach
2. Initial Review
3. EPA GHG reporting rule
4. Next steps?

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Rationale & Approach

- CT DEP contracted with NESCAUM to support GWSA effort
- Assess data needs for CT GHG inventory
  - "Bottom up" rather than "top down"
  - Look at state GHG inventories in Northeast, CA
  - Identify common methodologies across states
  - Identify potential data sets in CT/federal level for GHG inventory
- Provide CT DEP with recommendations for further GHG inventory development

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Initial Review

- To date, state GHG inventories largely “top down” using State Inventory Tool (SIT)
  - Excel-based tool
  - IPCC & US EPA methods
  - State-level scale
- CT 1990-2000, 2001 GHG inventory reports at http://www.ctclimatechange.com/ct_inventory.html

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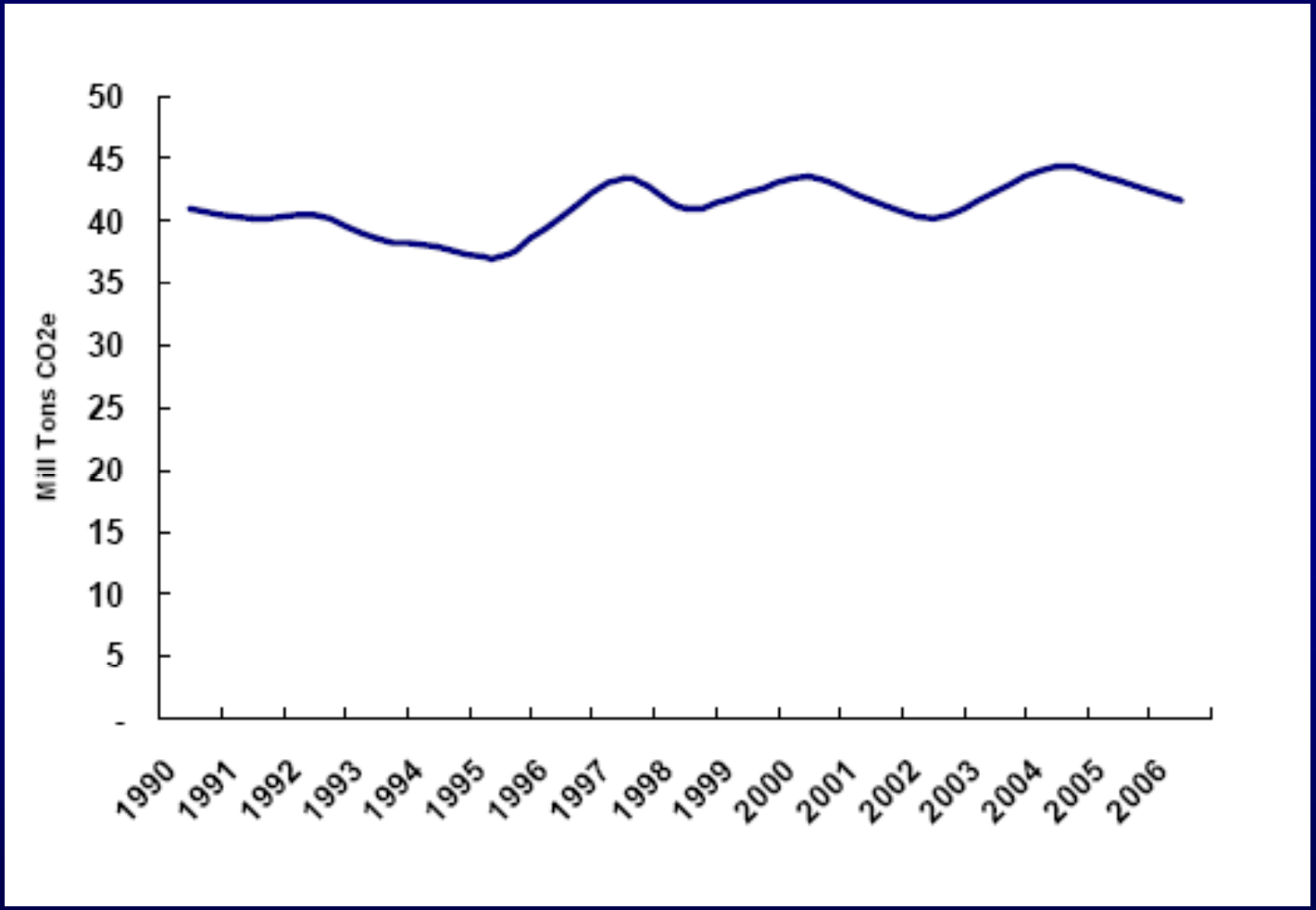
GHG CT GHG Trend



EPA 2008

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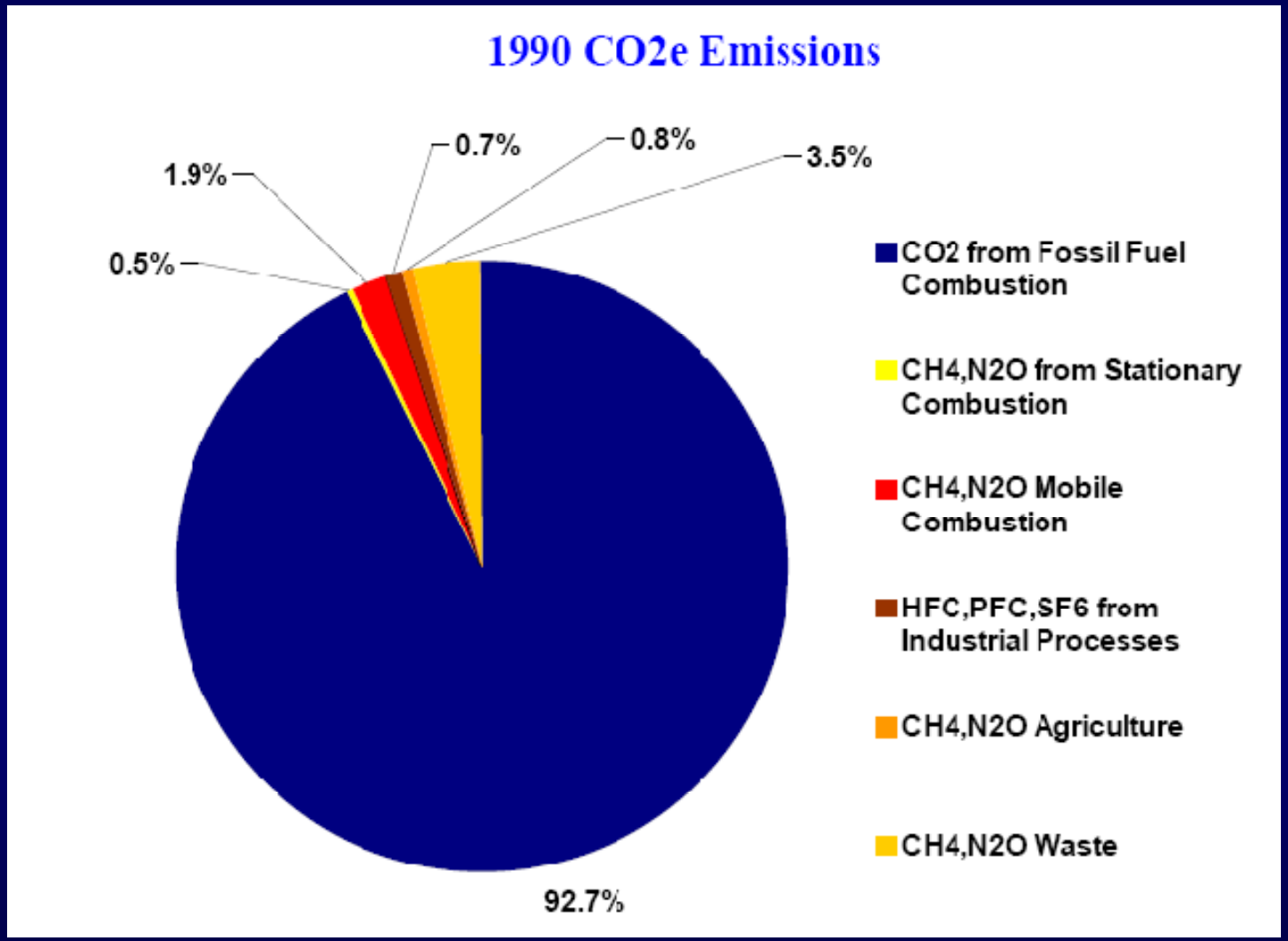
1990 CT GHG Inventory



EPA 2008

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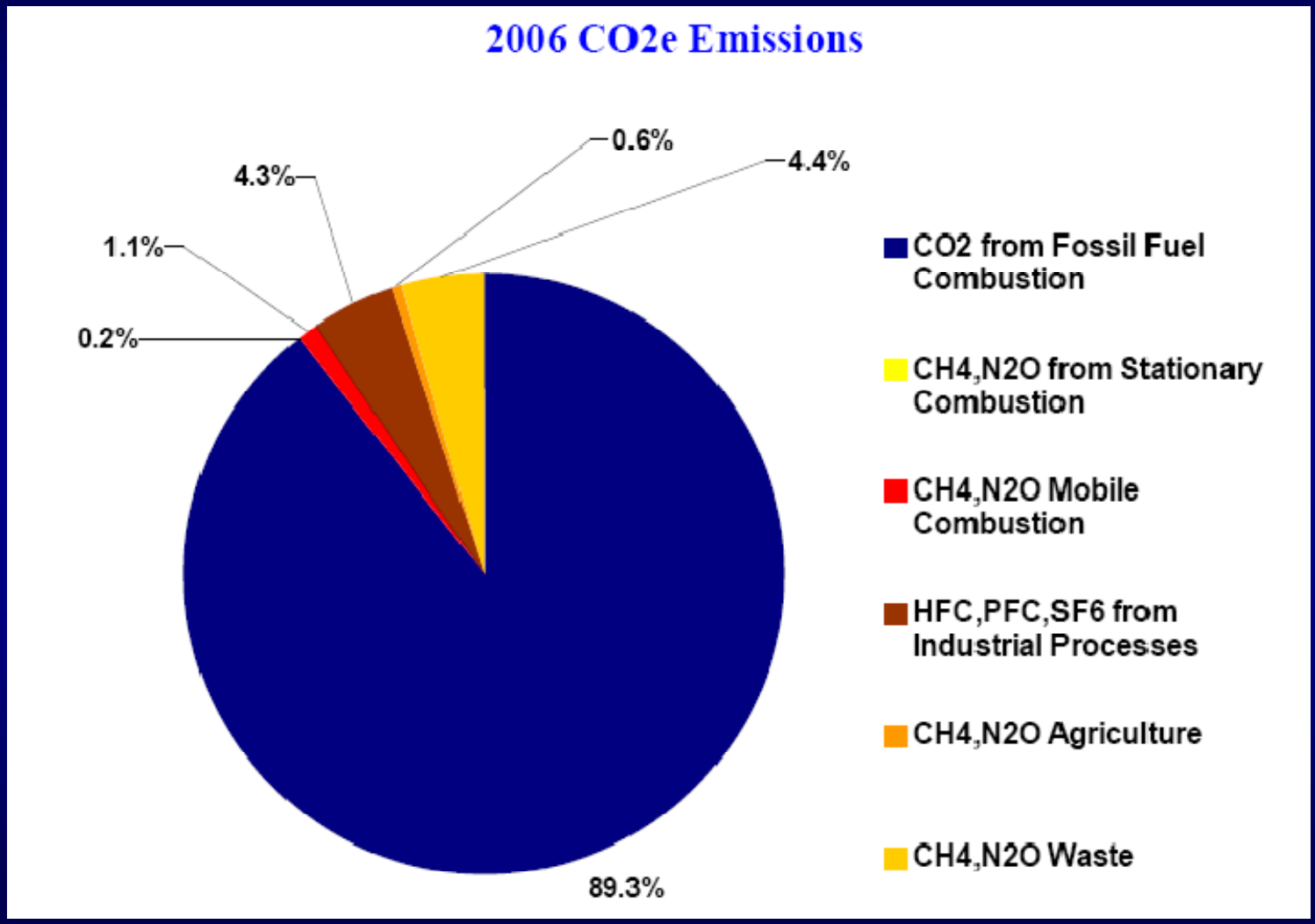
2006 CT GHG Inventory



EPA 2008

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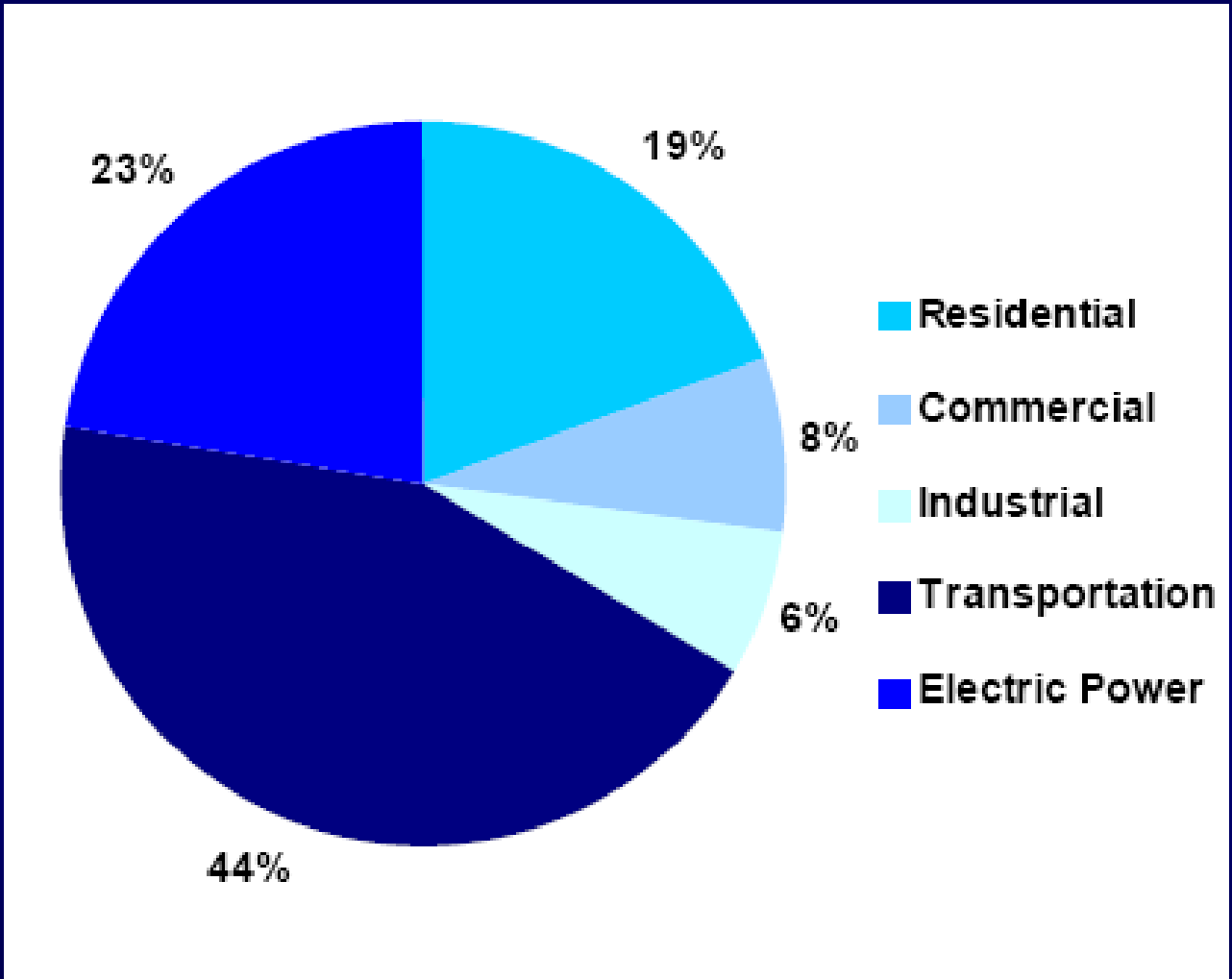
2006 CT GHG Fossil Fuel Combustion



EPA 2008

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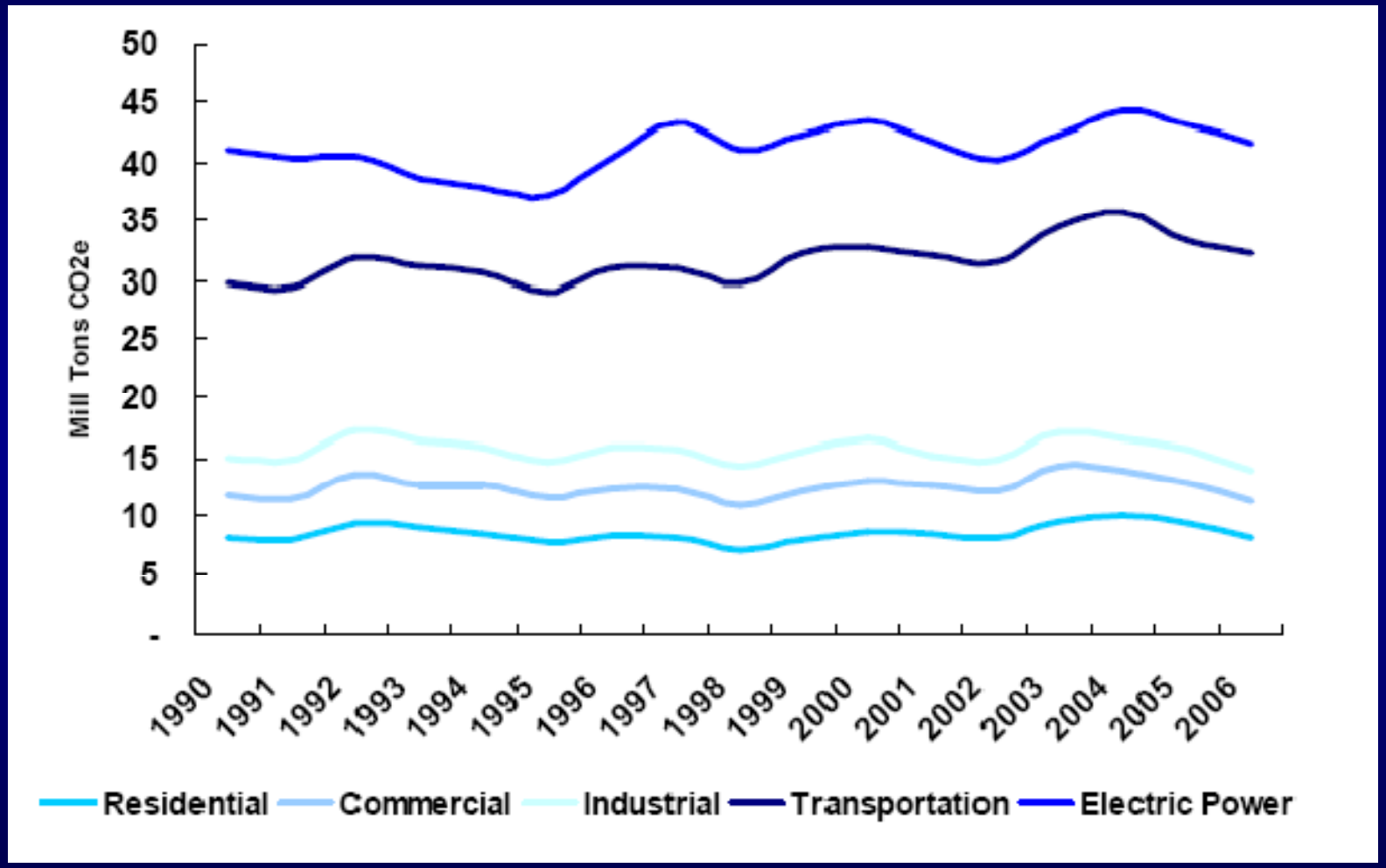
GHG CT Fossil GHG Trend by Sector



EPA 2008

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Recap CT Top-Down GHG Inventory

- ~90% CT GHG emissions CO2 from fossil fuel combustion
- Where the fossil fuel emissions are:
  - Transportation ~44%
  - Electric power ~23%
  - Residential ~19%
  - Commercial ~8%
  - Industrial ~6%

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Regional Consistency

- Many states use “top down” SIT approach
  - No state has full “bottom up” GHG inventory
- Some source-specific GHG data available from EPA
  - E.g., power plants in Clean Air Markets, eGRID
- States in The Climate Registry working towards common methods

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EPA GHG Mandatory Reporting Rule

- EPA proposed April 10, 2009:
  - CO2
  - N2O
  - CH4
  - SF6
  - HFCs
  - PFCs
  - Other fluorinated compounds, e.g., NF3, hydro F ethers

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Proposed GHG Reporting Sectors

- Electricity generation & industrial facilities
- Transportation vehicle & engine manufacturers
- Agriculture (only manure management)
- Upstream fossil fuel suppliers (coal, petroleum, natural gas)
- Others
  - Landfills, wastewater treatment, ethanol, food processing

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EPA Reporting Coverage

- Proposed reporting threshold ≥25,000 metric tons CO2e annually
- 85-90% national GHG emissions from facilities
- References established protocols from IPCC, WRI, The Climate Registry, other programs

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Observations for CT Climate Needs

- Initial review shows where the “big bites” for mitigation strategies are
- The details for “nibbling at the margins” can be developed later
- Proposed EPA reporting will provide facility-specific info – shouldn’t duplicate
- CT GHG mitigation strategies will need other info not found in traditional inventories

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Next Steps?

- Need to establish base year for tracking future GHG changes
- Inventories never finished, only revised – is it "good enough"?
- Collect information to support potential GHG mitigation strategies?

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Residential & Commercial

- Residential & Commercial sectors:
  - Census tract or county level of detail
  - Community-scale breakdown of space heating sources (e.g., heating oil, electric, natural gas)
  - Targeting EE programs, e.g., weatherization, square footage
  - Relating program effectiveness to change in GHG emissions

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Transportation

- Info to evaluate impacts of PHEVs, all electric vehicles
- Use model to project future fleet turnover impacts on GHG emissions under different incentive scenarios
- Look at how CA is incorporating GHG considerations in LCFS
- Find info on how zoning approaches may affect VMT

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Land Use, Ag, Forestry

- EPA not covering most ag sources
- Investigate what other states are doing for biomass inventories different from SIT

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Summary of Inventories

- Most state GHG inventories are top-down
- EPA proposed mandatory GHG reporting rule
  - Avoid duplication
- Info gaps exist for mitigation strategies
  - Use info to target programs/track effectiveness

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Summary of GHG Sectors in CT

- Transportation ~44%
- Electric power ~23%
- Residential ~19%
- Commercial ~8%
- Industrial ~6%

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Possible Info Needs

- Residential & Commercial – where to target EE programs
- Transportation incentive programs
  - PHEV, EV potential impacts
  - Emission scenarios of different fleet mixes
  - Zoning changes & VMT
- Land use, agriculture, forestry
  - Sources not covered in proposed EPA reporting rule
  - See what, if anything, other states are doing

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Other Ideas for Info Collecting?

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