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*Governor's Commission on Climate Change*



Vermont  
Governor's Commission  
on Climate Change  
Plenary Group Meeting #3  
January 18, 2007



**VERMONT**  
ENVIRONMENTAL CONSERVATION



CENTER FOR CLIMATE STRATEGIES

# Today's Agenda

- Welcome and Introductions; Logistics, etc.
- Update on Recent Climate Developments & State Actions
- Review and Approval of Draft Priority Policy Options Recommended by Technical Work Groups for Further Analysis
- Updates Regarding the Vermont Greenhouse Gas Emissions Inventory & Forecast
- Next Steps for Technical Work Groups
- Public Input and Announcements
- Agenda, Time and Date for Next Meeting

# Meeting Schedule

| <b>Date</b>                | <b>Action</b>   |
|----------------------------|---|
| <b>September 7, 2006</b>   | <b>1<sup>st</sup> GCCC-PG meeting</b>                     |
| <b>November 8, 2006</b>    | <b>2<sup>nd</sup> GCCC-PG meeting</b>                     |
| <b>January 18, 2007</b>    | <b>3<sup>rd</sup> GCCC-PG meeting</b>                     |
| <b>March 22, 2007</b>      | <b>4<sup>th</sup> GCCC-PG meeting</b>                     |
| <b>May 17, 2007</b>        | <b>5<sup>th</sup> GCCC-PG meeting</b>                     |
| <b>July 26, 2007</b>       | <b>6<sup>th</sup> &amp; Final GCCC-PG meeting</b>         |
| <b>August 2007</b>         | <b>GCCC review meetings (as needed)</b>                   |
| <b>Between PG Meetings</b> | <b>Technical Work Group conference calls and meetings</b> |

# Recent Climate Developments and State Climate Actions

- California: Low Carbon Fuel Standard
- Minnesota Climate Change Project
- Environment Northeast – *Climate Change Roadmap for NEG-ECP*
- Multi-State Climate Registry (MSCR) meeting in early February in Phoenix

# Ten Step Work Plan

1. Get organized
2. Develop initial GHG inventories and forecasts
3. Identify possible GHG mitigation policy options
4. Identify initial priority policy options for first round evaluation
5. Draft straw design proposals for draft policy options
6. Evaluate GHG reduction potential; cost/cost savings; ancillary and feasibility issues as needed
7. Identify potential barriers to consensus, alternatives
8. Modify, add, or subtract policy options as needed
9. Evaluate cumulative results of policy options
10. Finalize emissions projections, recommendations and report language

# Transportation & Land Use

- **TLU 1:** Compact and Transit-Oriented Development Bundle
- **TLU 2:** Alternatives to Single-Occupancy Vehicles (SOV)
- **TLU 3:** Vehicle Emissions Reductions Incentives
- **TLU-4:** Pay As You Drive Insurance
- **TLU-5:** Alternative Fuels and Infrastructure
- **TLU-6:** Regional Intermodal Transportation Systems (freight and passenger)
- **TLU-7:** Commuter Choice / Parking Cash Out

# Energy Supply & Demand

- **ESD-1:** Evaluation and continuation/expansion of existing DSM for electricity and natural gas
- **ESD-2:** Evaluation and expansion of DSM to Other Fuels
- **ESD-3:** Building Efficiency Codes, Training, Tracking
- **ESD-4:** Evaluate Potential for Contracting Nuclear Power
- **ESD-5:** Support for Combined Heat and Power
- **ESD-6:** Incentives and/or Mandate for Clean Electricity
- **ESD-7:** GHG Cap and Trade and/or CO2 tax
- **ESD-8:** Incentives for Clean Consumer Technologies for Electricity or Heat
- **ESD-9:** Wind-specific support measures
- **ESD-10:** Hydro-specific support measures

# Break



# Agriculture, Forestry & Waste Resource Management

- **AFW-1:** Programs to Support Local Farming / Buy Local
- **AFW-2:** Agricultural Soil Carbon Management Programs
- **AFW-3:** Manure Management Methods to Achieve GHG Benefits
- **AFW-4:** Preserve Open Space/Agricultural Land
- **AFW-5:** Forestry Programs to Enhance GHG Benefits
- **AFW-6:** Increased Forest Biomass Energy Use
- **AFW-7:** Forest Protection – Reduced Clearing and Conversion to Nonforest Cover
- **AFW-8:** Expanded Use of Durable Wood Products (especially from VT sources)
- **AFW-9:** Advanced/Expanded Recycling and Composting
- **AFW-10:** Programs to Reduce Waste Generation
- **AFW-11:** Waste Water Treatment - Energy Efficiency Improvements

# Cross Cutting Issues

- **CC-1:** GHG Inventories and Forecasting
- **CC-2:** GHG Reporting
- **CC-3:** GHG Registry
- **CC-4:** Public Education and Outreach
- **CC-5:** Adaptation
- **CC-6:** GHG Reduction Goals and Targets
- **CC-7:** State GHG Emissions

# Next Step for TWGs: Draft Straw Proposals Using Template

- Policy Option Description
- Policy Option Design (Goals, timing, participants)
- Implementation Mechanisms
- Related Policies/Programs in Place
- Type(s) of GHG Reductions
- Estimated GHG Savings and Costs per MtCO<sub>2</sub>e
- Key Uncertainties
- Additional Benefits and Costs
- Feasibility Issues
- Status of Group Approval
- Level of Group Support
- Barriers to Consensus

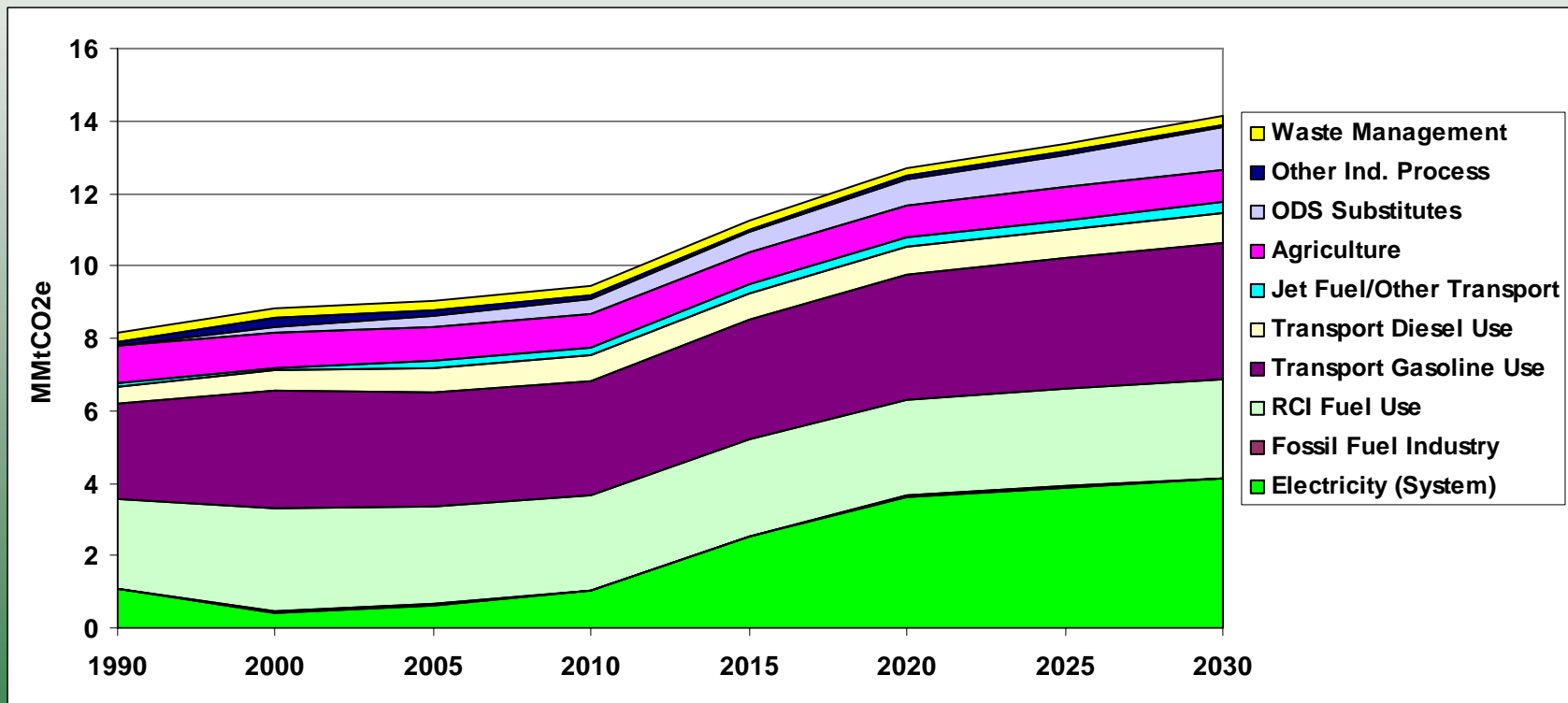
# Break



# Updates to GHG Inventory and Reference Case Forecast

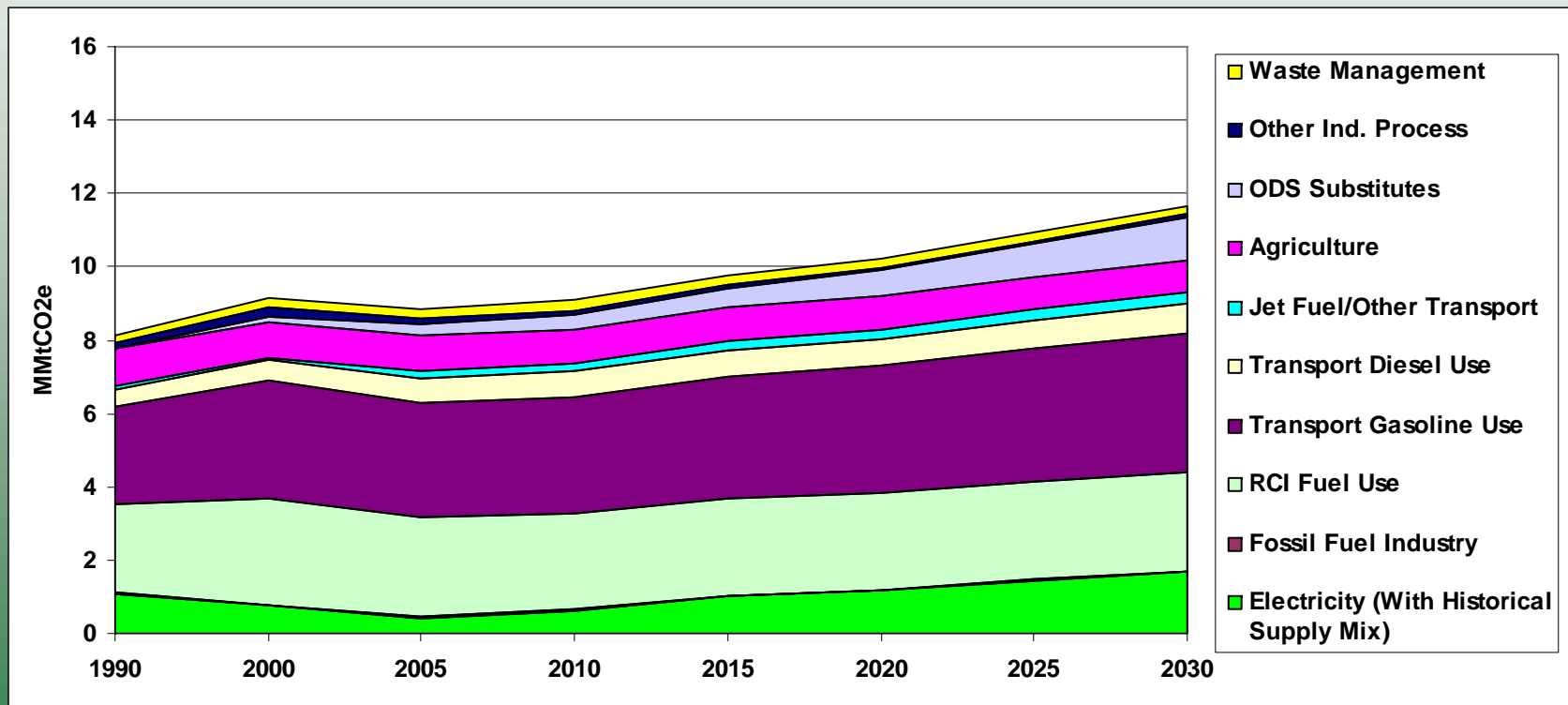
# Gross GHG Emissions By Sector, 1990-2030

With System Average Electricity Mix Forecast



# Gross GHG Emissions By Sector, 1990-2030

With Hypothetical Historical Electricity Mix Forecast



# TLU - Inventory & Forecast

- Status
  - Forecast extended to 2030
    - Based on growth factors for 2015 to 2020
- Suggested revisions
  - TWG to revise forecast with updated VTrans VMT data

# ESD - Inventory & Forecast

- Status

- Energy supply revised to include:

- Latest VT DPS forecast to 2026 (with and without new DSM)
    - Forecast to 2030 using DPS 2016-2026 growth rate
    - Added 1990 and 1991 emissions
    - Emissions from system power purchases revised to account for low average heat rate
    - VT DPS provided data and guidance / review

- Suggested revisions

- Renewable Energy Credits (RECs):

- TWG to consider how RECs sold out-of-state should be accounted for in Inventory & Forecast

# ESD - Inventory & Forecast

- Status
  - RCI Fuel Use
    - Forecast extended to 2030
      - Based on EIA's AEO2006 regional projections
      - State population and employment based on growth factors for 2015 to 2020
  - Industrial Non-Energy Use
    - Forecast extended to 2030
      - Based on growth factors for 2015 to 2020
- Suggested revisions
  - None identified

# Forestry - Inventory & Forecast

- Status
  - No changes
  - Forecast extended to 2030
    - No growth
- Suggested revisions
  - None identified

# Agriculture - Inventory & Forecast

- Status
  - TWG has not identified any issues
  - Forecast extended to 2030
    - Based on growth factors for 2015 to 2020
- Suggested revisions
  - State-level soil carbon flux estimates for 1997 have been identified by CCS and will be added (-0.19 MMTCO<sub>2</sub>e/yr)

# Waste - Inventory & Forecast

- Status
  - TWG has not identified any issues
  - Forecast extended to 2030
    - Based on growth factors for 2015 to 2020
- Suggested revisions
  - None identified

# Break



# TWG Next Steps

- Develop draft straw proposals for priority policy options
  - Volunteers for drafting
  - Suggest design, goals, timing, participants
- Review and suggest revisions, if any, to Vermont GHG inventory and forecast

# Public Input, Announcements

# Next Plenary Group Meeting

- Agenda:
  - Review and approve TWG suggested straw proposals for design of priority policy options
  - Review and approve any TWG suggested updates to the Vermont emissions inventory and forecast
- March 22, 2007

