



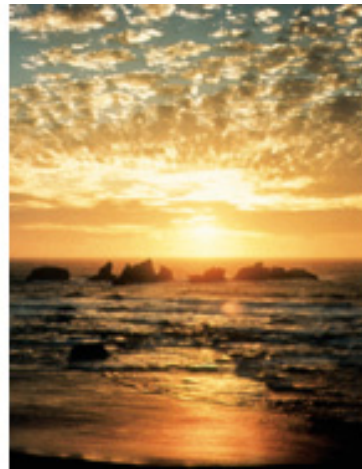
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# Oregon Climate Action Chronology From the Carbon Standard to WCI

**Oregon Global Warming Commission**

March 17, 2008

Bill Drumheller -- Oregon Department of Energy

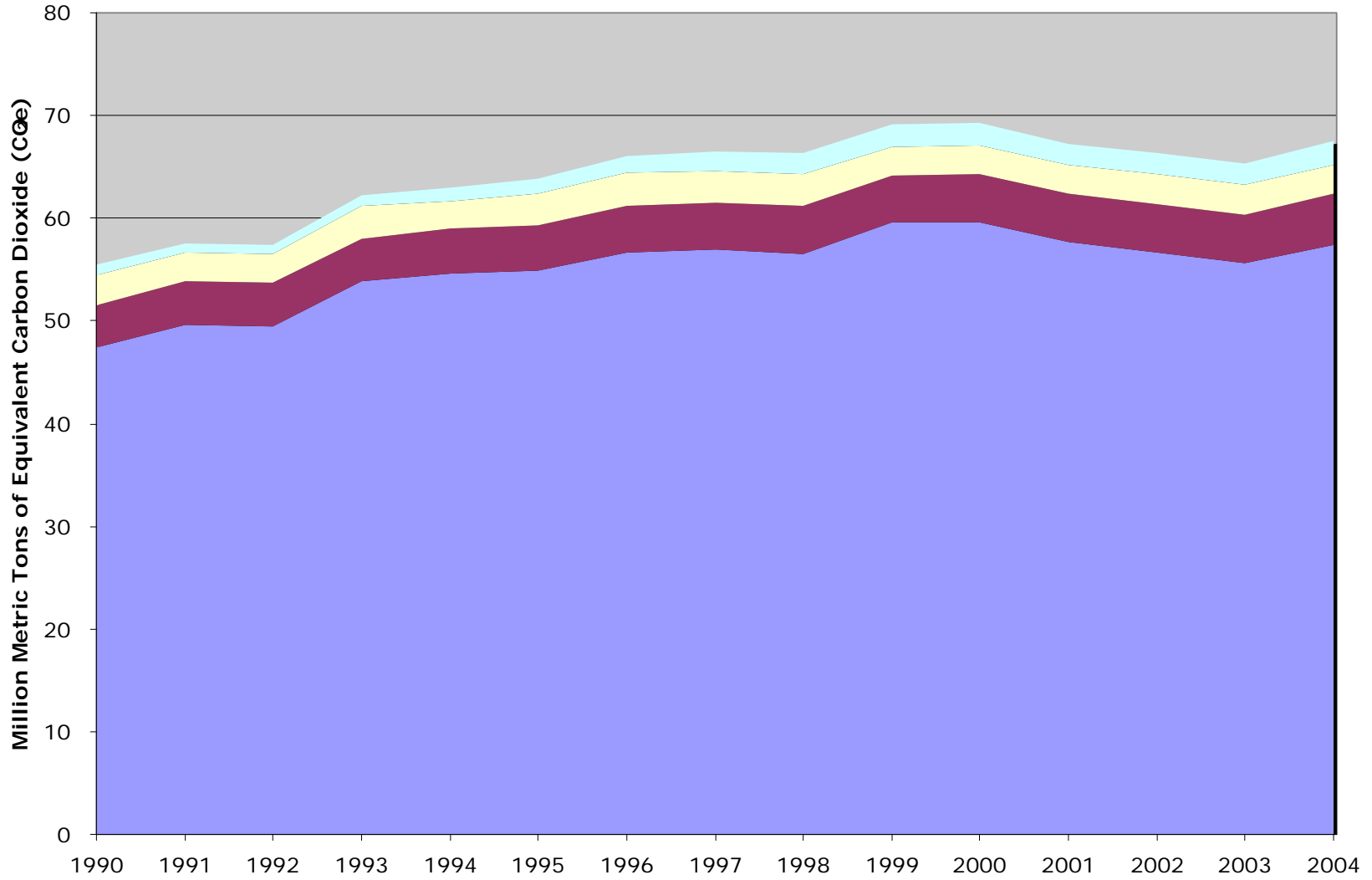


# Presentation Outline

- Brief Emissions Overview (Bill)
- Carbon Standard/Early History (Bill)
- *Oregon Strategy* and CATF (Angus)
- Recent History of Other Action (Bill)
- Western Climate Initiative (Dave)
- Final Report of the CCIG (Bill)



# Greenhouse Gas Emissions 1990-2004

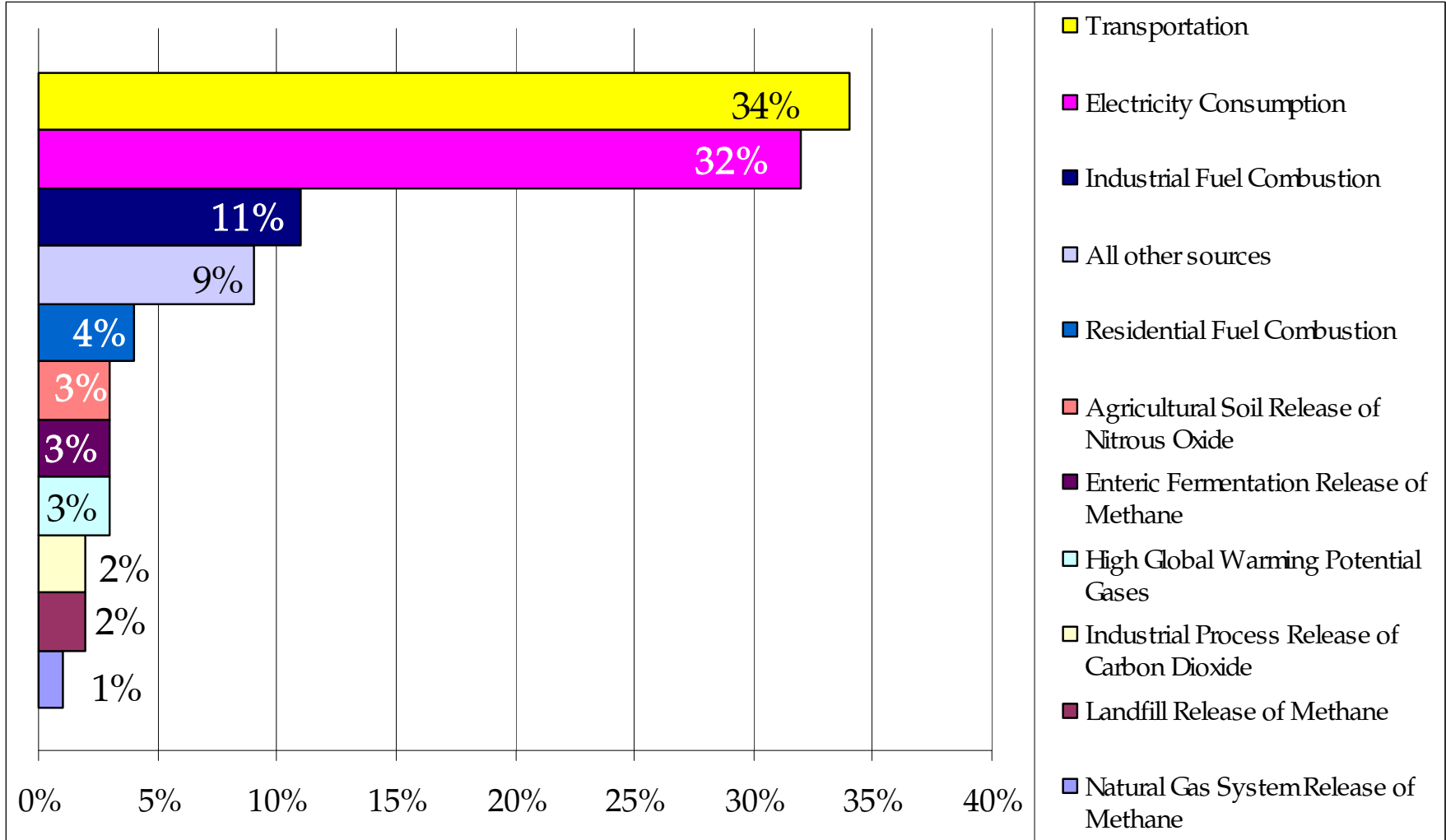


Carbon Dioxide (CO2)  
Nitrous Oxide (N2O)

Methane (CH4)  
High GWP Gases - HFC, PFC, and SF6

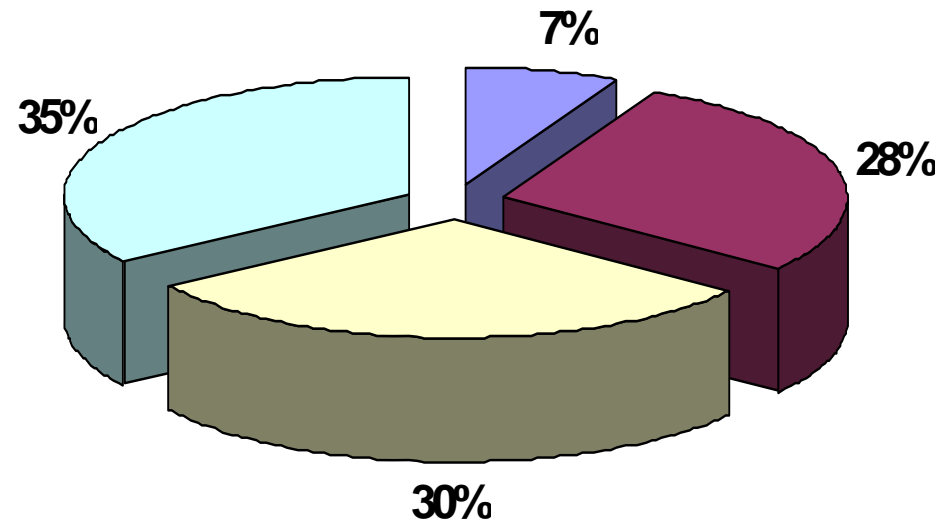
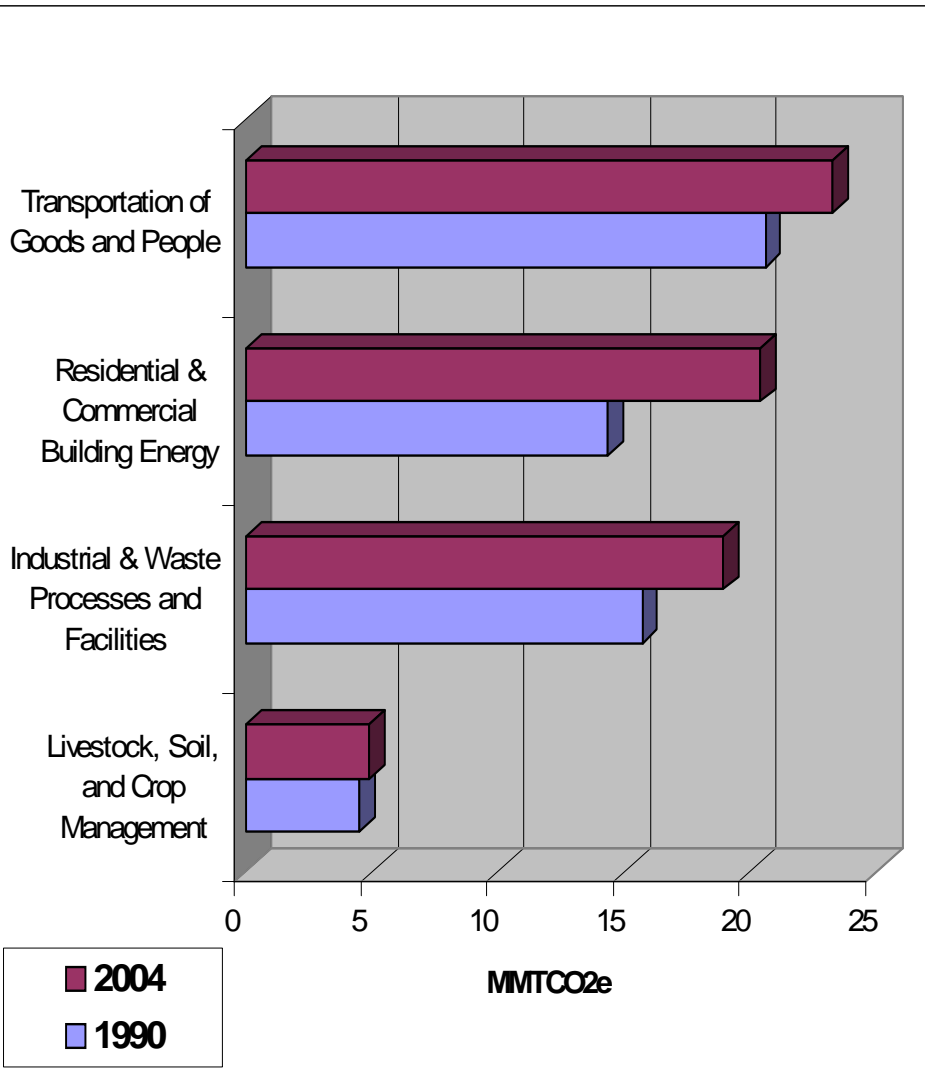


# Major Greenhouse Gas Sources (2004)





# Sector Contributions



(2004 Data)



# Oregon First State to Regulate Carbon Dioxide

- In 1997 the Oregon legislature gave the Energy Facility Siting Council the authority to set carbon dioxide emissions standards for new energy facilities.
- 0.675 lb. CO<sub>2</sub> per kilowatt-hour for base load gas plants and non-base load plants.
- 0.504 lb. CO<sub>2</sub> per horsepower-hour for non-generating facilities.
- Two alternatives for meeting the CO<sub>2</sub> standard through offset projects:
  - 1) it may implement projects directly or through a third party;
  - 2) it may instead use the “monetary path” and pay the Climate Trust \$1.27 per short ton to offset emissions for the applicant.

# West Coast Governors' Global Warming Initiative

- In September of 2003 the Governors of Oregon, Washington, and California agreed to work together on climate change policies.
- In November of 2004 the Governors approved 36 recommendations in five areas that were jointly developed by the three states.



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**-- Pause for Angus Duncan Presentation --**



# California “Clean Car” Tailpipe Standards

- CAA allows states to “opt in” to CA’s clean car tailpipe emission standards.
- Adopted by 13 states, including OR in 2005, and being considered by 7 more.
- Estimated annual ghg reduction of greater than 6 MMTCO<sub>2</sub>e in 2025.
- Currently on hold due to US EPA decision to deny California waiver.

# Renewable Energy Working Group (REWG)

- REWG met through most of 2006 and early 2007, started again in mid 2007.
- Chartered role was to guide the implementation of the Governor's Renewable Energy Action Plan (REAP).
- Primary focus was on legislation for 2007 Legislative Session.

# Renewable Portfolio Standard (RPS)

- RPS passed in 2007 Session requires that 25% of the electricity supplied by the largest utilities in 2025 be renewable.
- Obligation ramps up over time.
- Smaller utilities have lesser obligation (5 or 10 percent) that starts in 2025.
- Estimated annual ghg reduction of 7 MMTCO<sub>2</sub>e by 2025 from RPS obligation.

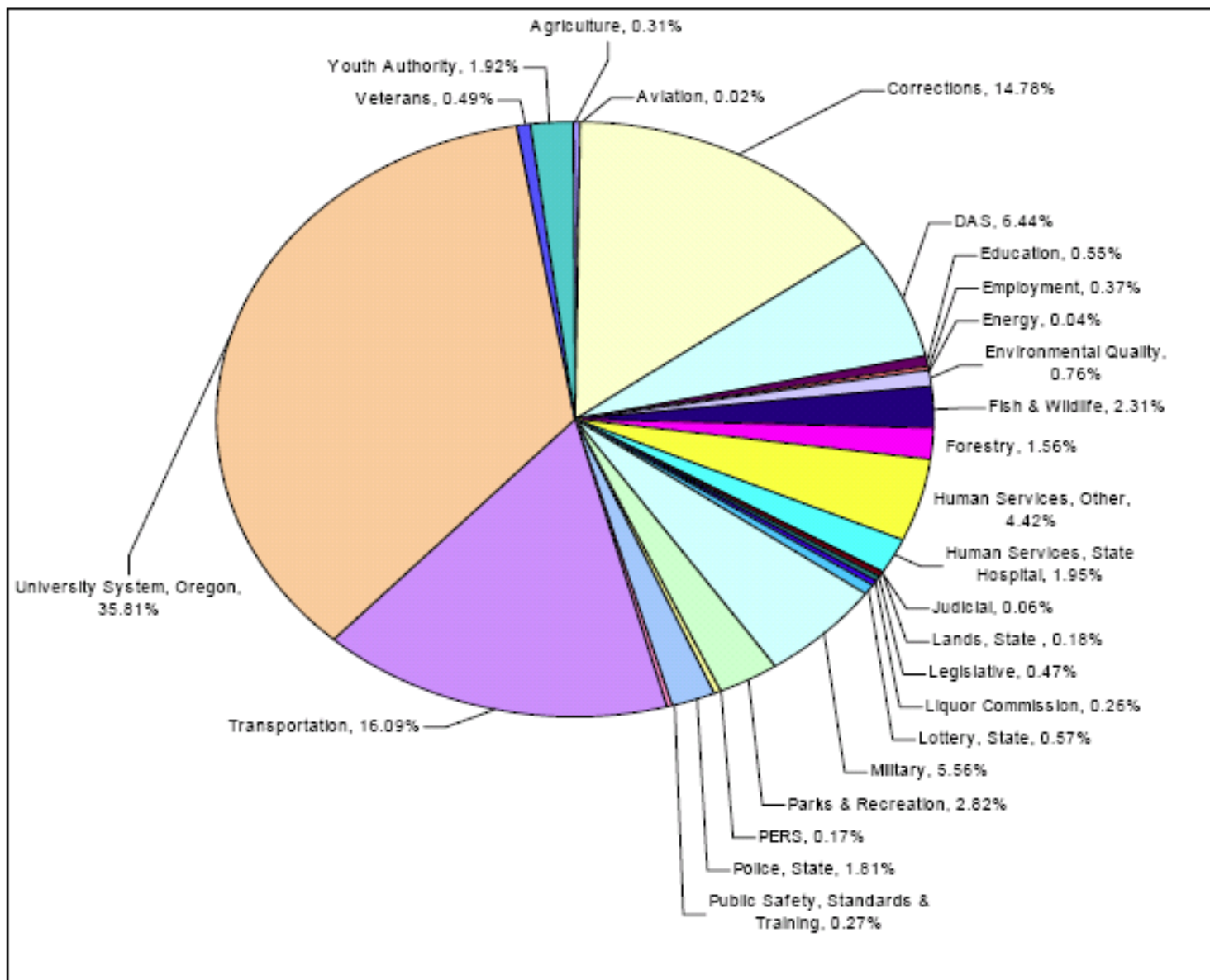
# Other Key Actions from 2004 *Oregon Strategy*

- Appliance Efficiency Standards
- Residential Building Code Improvement of roughly 15 percent
- Biofuels legislative package (RFS)
- Various renewable energy incentives
- A variety of energy efficiency measures
- Combined emission reductions on the order of 4  $\frac{3}{4}$  MMTCO<sub>2</sub>e by 2025.

# State Agency Greenhouse Gas Inventory Initiative

- Executive Order 06-02 called for the Department of Administrative Services to coordinate an interagency team to lay foundation for agency greenhouse gas inventories.
- Inventories for both Oregon State Agencies and Oregon University System completed in Summer 2007.

**Graph 3  
State Government Agency Percentages of Greenhouse Gas Emissions**



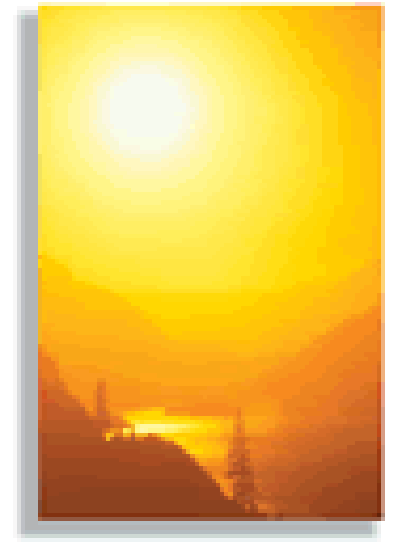


# The Role of Forestry

- 2001 law allows State Forester to establish programs to market, register, transfer or sell forestry carbon offsets on behalf of the state, a trust fund, and other non-federal forest landowners.
- ODF and OFRI increasingly involved with carbon issues.
- Sponsoring workshops and reports on forest carbon issues.

## **Forests, Carbon and Climate Change**

*A Synopsis of Science Findings*





# **Western Public Utility Commissions' Joint Action Framework On Climate Change (OR, WA, CA, NM) Dec. 2006**

- Review best practices for energy efficiency and pursue joint opportunities to identify and secure cost-effective conservation. Develop policies to recognize energy efficiency as an energy resource.
- Review best practices for demand response and develop joint activities to increase beneficial demand response capability.
- Explore ways to remove barriers to the development of advanced, low-carbon technologies for fossil fuel-powered generation capable of capturing and sequestering carbon dioxide emissions.
- Explore the development and implementation of greenhouse gas emissions standards for new long-term power supplies.
- Examine opportunities to further support and implement renewable energy development to serve the West Coast states, including policies to encourage the development of transmission.
- Commit to outreach with neighboring states.



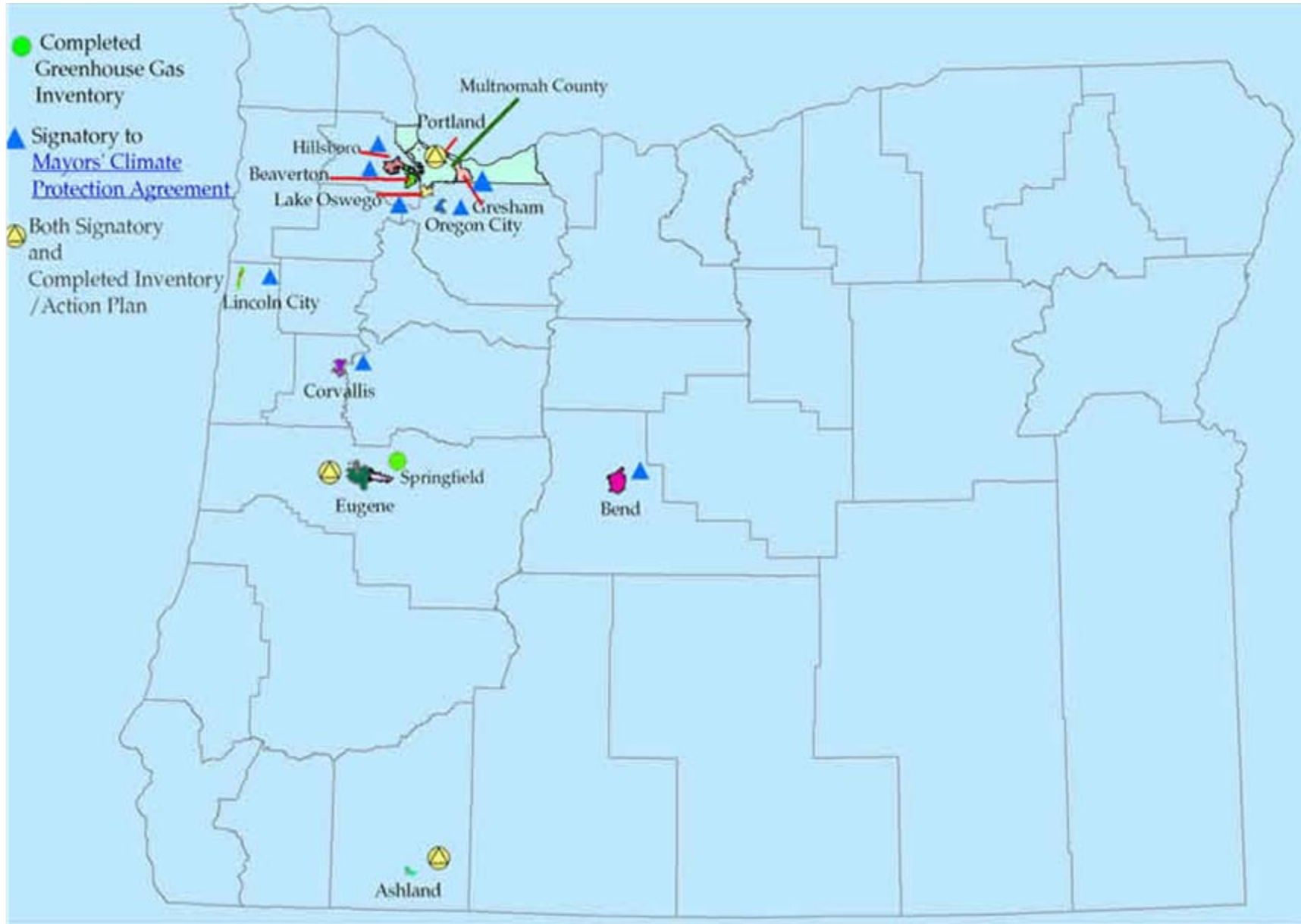
# Other State Action

A few of the many agency actions:

- OR Parks & Recreation Department interested in coastal permitting impacts.
- DOGAMI examining shoreline impacts.
- DLCDC (OR Coastal Mgmt Program) starting outreach to coastal planners.
- OR Water Resources Commission gaining interest, especially in adaptation.
- Numerous other examples .....



# Local Action in Oregon





# The Next Chapter

- A new phase in Oregon's Climate Change policies and politics
  - Multi-sector Regulation
  - Legislative Involvement
  - Widespread State Agency Involvement
  - Regional, National, and International Cooperation (beyond West Coast)
  - Expanded Focus on Preparation and Adaptation Issues

# Climate Change Integration Group

- Focus on four primary areas:
  - Create preparation/adaptation strategy for Oregon.
  - Implement and monitor mitigation measures from the “*Oregon Strategy*” report (+ devise new ones).
  - Serve as a clearinghouse for Oregon climate change information and conduct public education.
  - Explore new research areas for the universities.
- Interim Report Delivered to Governor in January of 2007
- Final Report discussed later in this presentation.



# Key CCIIG Interim Report Recommendations

- **Support legislative adoption in the 2007 legislative session the state greenhouse gas reduction goals.**
- **Permanently establish the Climate Change Integration Group (or something like it), preferably by legislation.**
- **Dedicate funding to establish a climate change research center for research through the Oregon University System.**
- **Establish an ongoing tracking system to report on progress in achieving climate change goals.**
- **Direct state agencies to establish an interagency climate change team, and direct those agencies to prepare a progress report on mitigation measures.**
- **Continue efforts to develop a regional dialogue with other western states on greenhouse gas reduction strategies.**
- **Conduct an updated and more thorough assessment of the economic impacts of climate change in Oregon.**

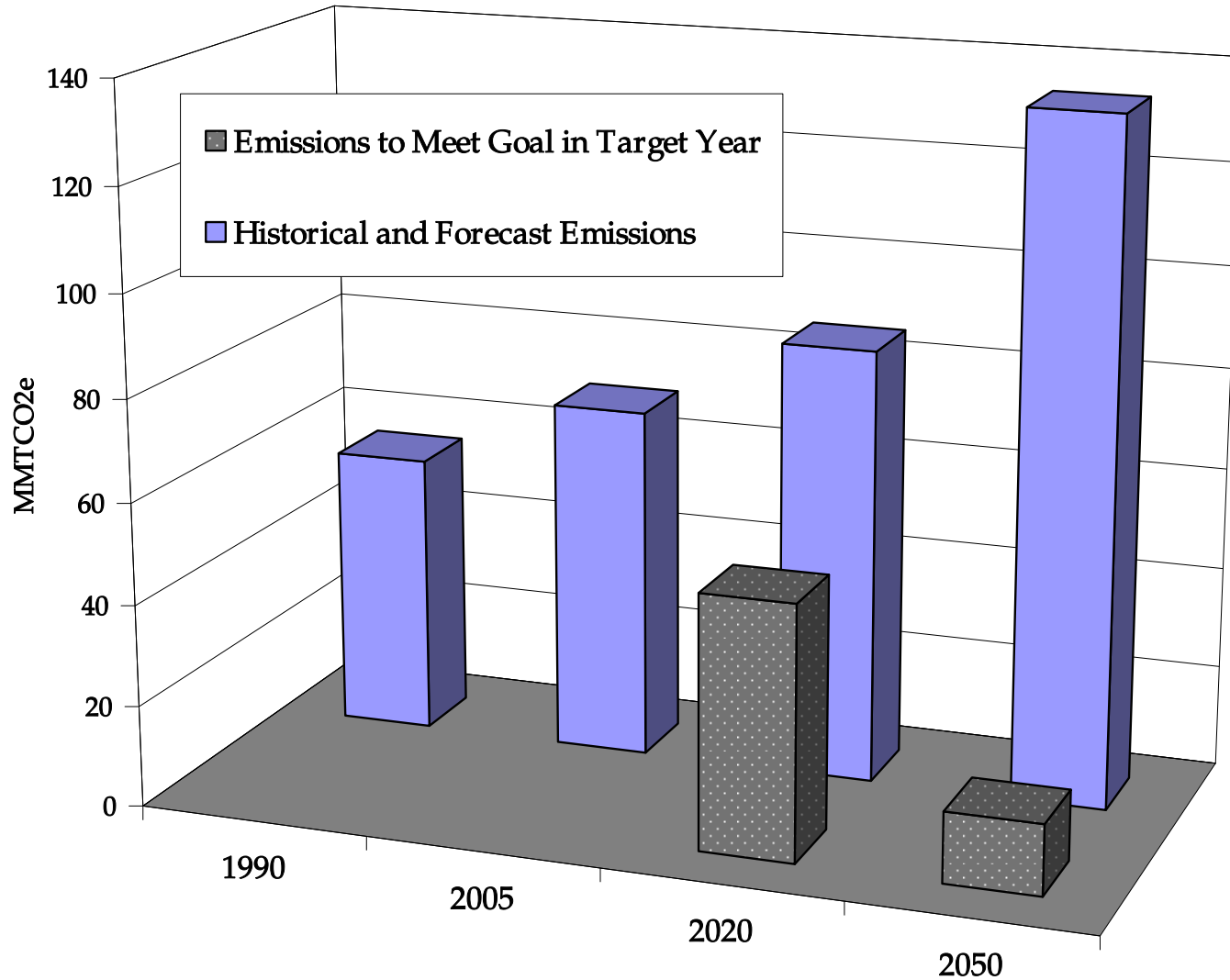


# HB 3543 Legislation

- Oregon greenhouse gas emission **goals** put into state law in the 2007 session.
  - **Arrest growth of emissions by 2010.**
  - **10 percent below 1990 levels by 2020.**
  - **75 percent below 1990 levels by 2050.**
- Also created the Global Warming Commission and the Oregon Climate Change Research Institute.
- Focuses on mitigation and adaptation.



# The Challenge



# The Climate Registry

- Allows entities to report their greenhouse gas (ghg) emissions to common data platform.
- Common protocols and methodologies for quantification of ghg emissions.



- British Columbia
- Manitoba
- Québec
- Saskatchewan
- Ontario
- Prince Edward Island
- New Brunswick



- Sonora
- Tamaulipas

States, Provinces and Tribes that have joined *The Climate Registry* as of February 1, 2008



Oregon participates on protocols committee, and both the protocols and software technical working groups.



# Mandatory Reporting

- The Governor asked the Environmental Quality Commission (EQC) in July of 2007 to consider a rule mandating the reporting of greenhouse gas emissions from sources.
- Oregon DEQ has initiated and (nearly) completed an advisory group process (GHGRAC) which has made recommendations for DEQ rulemaking.
- Draft reporting rules due to be released on April 1, 2008. Public hearings to follow.



# DEQ Advisory Group Recommends Reporting From:

- Entities generating or supplying electricity.
- Natural gas utilities, interstate oil and natural gas pipelines, and propane and fuel oil distributors.
- All Title V or Air Contaminant Discharge Permit stationary sources in Oregon.
- If not already reporting per above, sources permitted under other ODEQ statutes (e.g., landfills) if annual greenhouse gas emissions are more than 2,500 metric tons of CO<sub>2</sub>e.
- Mobile emissions reported on a voluntary basis, follow up group to investigate further reporting.

# Western Climate Initiative



## The **Western** Regional **Climate** Action **Initiative**

- Logical extension of West Coast Governor's (formed by **Oregon**, **Washington**, and **California** in 2003) and Southwest (formed by **Arizona** and **New Mexico** in 2006) climate change initiatives.
- In February of 2007 the Governors of the five states sign joint MOU to form the Western Regional Climate Action Initiative (later shortened to the Western Climate Initiative, or WCI).



# WCI Memorandum of Understanding

The founding partners in the WCI agreed to the following three entry conditions:

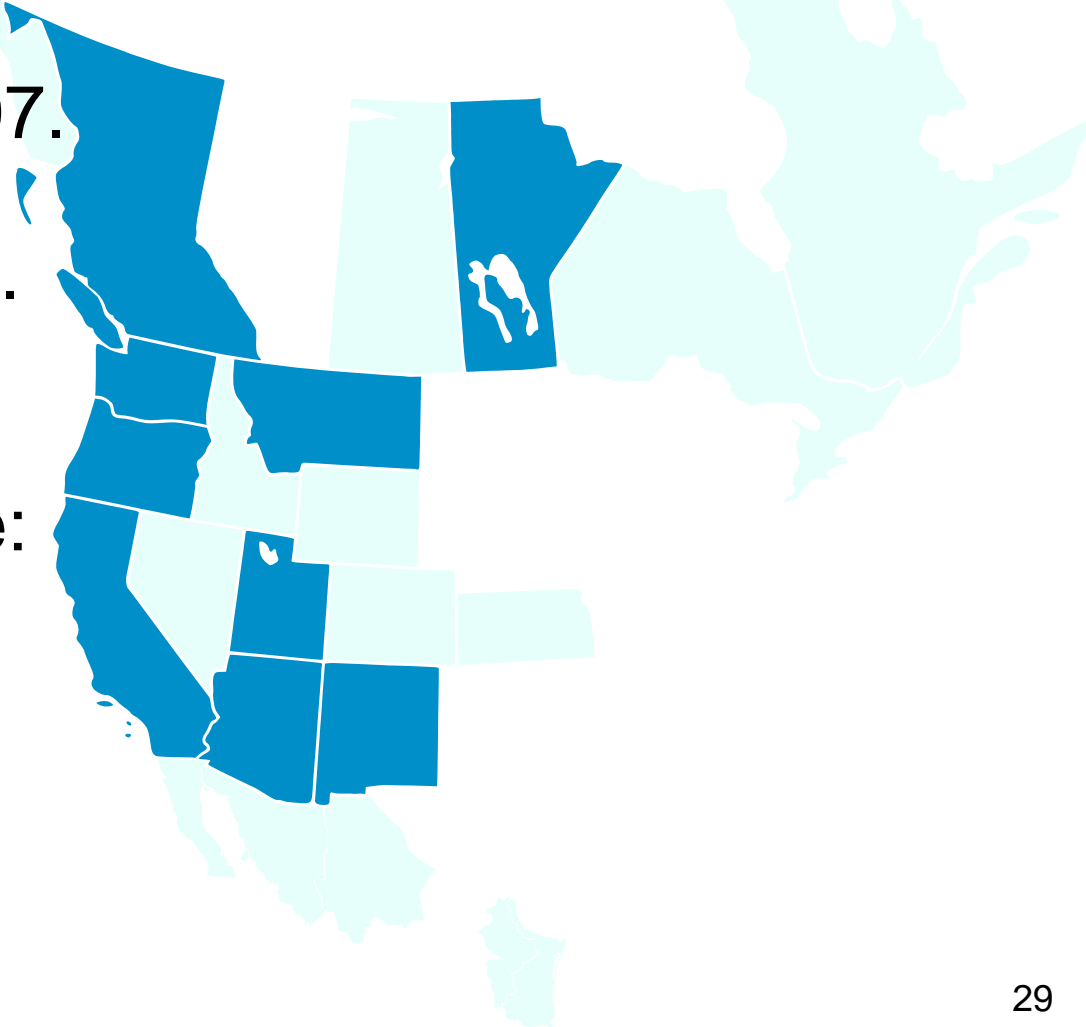
- Set a regional greenhouse gas reduction goal (by 8/07) consistent with state-by-state goals.
- Develop a design for a “market-based multi-sector mechanism” (by August of 2008) to help achieve the regional emissions goal.
- Participate in a greenhouse gas registry, which all partners did by joining The Climate Registry as founding members in May of 2007.





# The WCI Expands

- **British Columbia** joins in April 2007.
- **Utah** joins in May 2007.
- **Manitoba** becomes member in June 2007.
- **Montana** enters in January of 2008.
- Others ask to observe: Alaska, Colorado, Kansas, Wyoming, Nevada, Quebec, Ontario, Idaho, Saskatchewan, and 5 Mexican States.

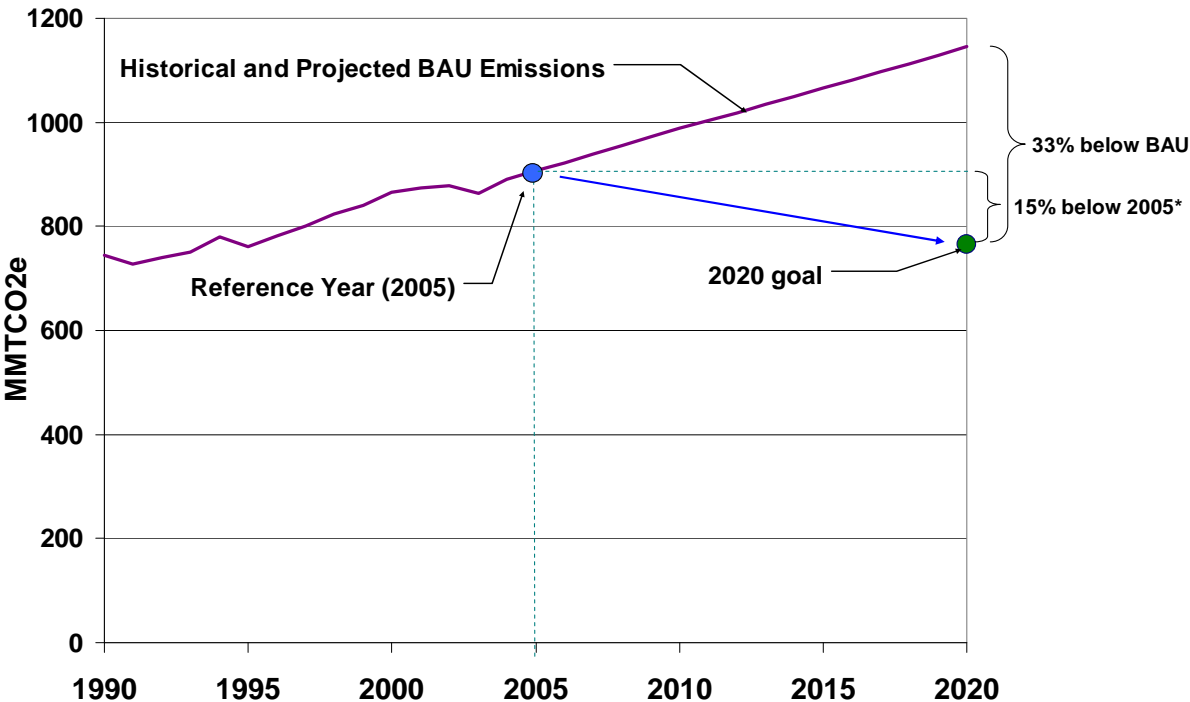




# WCI Sets Regional Goal (August 2007)

WCI partners agree to reduce greenhouse gas emissions in the WCI region to **15 percent below 2005 levels by 2020** (the combined impact of the WCI partner's existing goals).

The WCI regional goal does not replace the existing state or provincial goals of the WCI partners.



# Regional Cap and Trade Design

- WCI partners have agreed that the focus through August of 2008 will be on designing a regional cap-and-trade program.
- Five Sub-Committees have been formed to get into design issues of cap-and-trade program:
  - Scope
  - Allocations
  - Offsets
  - Electricity
  - Reporting
- In January of 2008 each Sub-Committee issued a “Major Options” paper outlining their direction.
- Economic Modeling Team has also begun work.



# Initial Scope & Electricity Recommendations

The proposed scope of the WCI design includes:

**Electricity:** Point of regulation to be either (1) generators of electricity if enough additional states/provinces in the West join WCI or (2) deliverers of electricity (both in-state generators and importers of electricity into WCI region) if not enough Western generation is brought into WCI.

**Other Sources:** Large Stationary Combustion, Industrial Processes, and Fossil Fuel Production & Processing.

**Still to be determined:** Transportation Fuels and Residential/Commercial Natural Gas, Heating Oil, Propane





# Stakeholder Processes

- Oregon Stakeholder Meetings (monthly)
- Regional Stakeholder Meetings
  - Portland, January 10, 2008
  - Salt Lake City, May 21, 2008
  - To Be Determined, July 2008
- November 2007 Comment Period
- January 2008 Comment Period
- At Least 3 More Rounds of Public Comment
- Regional and Oregon List Serves
- WCI Web Site with Documents, Comments, etc.



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# CCIG Final Report: Highlights



THE GOVERNOR'S CLIMATE CHANGE INTEGRATION GROUP  
**Final Report to the Governor**  
A Framework for Addressing  
Rapid Climate Change

State of Oregon, January 2008





# CCIG Final Report

- Transmitted to Governor on Feb 29, 2008
- “Key Recommendations” have broad consensus of CCIG (but not unanimous).
- Main body of report has numerous other recommendations with varying support, but highlights issues of general concern.
- “Framework” concept brings together diverse topics mandated by CCIG Charter in one document.

# Key CCLIG Final Report Themes

- Immediately begin preparing for climate change.
- Expanding and enhancing Oregon's emission reduction efforts – and redoubling efforts to implement reduction measures previously identified.
- Transforming our planning processes through new tools, new perspectives, and a new focus on land use and transportation planning.
- Developing and implementing an education and outreach program.
- Determining how climate change will affect Oregon's diverse regions.
- Assisting Oregonians to better respond to climate change.
- Expanding economic development opportunities associated with climate change and the new "green" economy.
- Incorporate the public health implications of climate change.
- Continuing to refine a climate change research agenda for universities.
- Funding to spur action for key recommendations in the final report.



# Immediately Begin Preparing for Climate Change

- Prioritize increasing resiliency within Oregon's natural, built, human and economic systems before major impacts occur.
- Require and encourage all government agencies to adopt and implement climate change preparation plans.
- Assess existing capacity and develop governance systems appropriate for the rate and scale of change that will accompany climate change.
- Assess existing finance mechanisms and develop new funding options as needed to account for the longer time frames required to effectively prepare for climate change.
- Limit non-climate stresses on Oregon's natural, built, human and economic systems.



# Act Now To Expand, Enhance, And Reinvigorate Mitigation Efforts

- Enact a cap and trade regime for greenhouse gas emissions, in concert with other states and provinces in the Western Climate Initiative.
- Ensure that energy efficiency goals articulated in the 2004 *Oregon Strategy* are met.
- Take action to ensure that the tailpipe emissions standards adopted by the State can go into effect.
- Take action to transform our transportation and land use planning processes to reduce greenhouse gas emissions.



# Determine How Climate Change Will Affect Oregon's Diverse Regions

- Develop localized climate change assessments that focus on impacts of a changing climate, adaptation and preparation needs, and mitigation opportunities.

# Assist Oregon Institutions and Individuals in Responding to Climate Change

- Lead by example by integrating systems-based planning for mitigation, adaptation, and preparation into state agencies' long-range processes that affect the development of physical infrastructure.
- Support integrated local government planning for both greenhouse gas mitigation and climate change preparation and adaptation.
- Develop the support and information infrastructure necessary for assisting business and industry in Oregon with climate change preparation and adaptation planning.





# Develop And Implement An Education And Outreach Program

- Develop and implement a coordinated education and outreach program that will help increase public awareness of climate change impacts, strategies and benefits.

# Transform Our Planning Processes to Deal with Climate Change

- Ask that the “Big Look” Task Force explicitly address climate change as a core issue in land-use planning.
- Incorporate climate change effects and impacts into new transportation initiatives.
- Redesign planning tools to account for the future impacts of climate change.
- Use and continually improve adaptive management processes and contingency planning.
- Plan at larger scales to ensure that climate preparation in one sector or region does not affect preparation elsewhere.



# View Responding To Climate Change As An Economic Development Opportunity

- Build on the state's leadership in carbon offsets resulting from the Oregon Carbon Dioxide Standard, the nation's first greenhouse gas mitigation legislation.
- Build on Oregon's experience with managing forests by ensuring that forest carbon sequestration is acknowledged in state, regional, and national climate policy.
- Build on Oregon's leadership in green building by ensuring that a whole buildings perspective is accommodated by state, regional, and national climate policies.
- Link climate preparation to the existing economy and to new economic development efforts.



# Incorporate the Public Health Implications of Climate Change

- Integrate the public health impacts of climate change into the policy, planning, and preparation for climate change done by the Global Warming Commission, the state, and the research sector.
- Recognize and incorporate the benefits to public health of many climate change mitigation, preparation, and adaptation activities.
- Watch for unintended public health consequences of climate change mitigation, adaptation, and preparation activities.



# Continue To Develop And Refine A Climate Change Research Agenda For Oregon

- Create a Climate Change Research Working Group to advise the OCCRI so it can design and conduct a workshop of university researchers alongside business and community leaders to help develop a research agenda for Oregon.
- Coordinate research agendas across states and regions to avoid redundancy.



# Provide Funding For Key Action Areas Identified In This Report

- Allocate funding for multi-disciplinary and multi-county regional teams to develop and advance regional adaptation and preparation agendas, as well as potential regional mitigation strategies.
- Allocate funding for education and outreach activities in the range of \$100,000.
- Provide additional funding for OCCRI in the range of \$800,000 per biennium.



# CCIG Final Report: Final Thoughts

- A lot of necessary emphasis on planning and process. First step is to change traditional ways of thinking.
- Transportation and land use is key near-term focus ... not only in mitigation but in preparation & adaptation as well.
- Lack of resources has led education and outreach to be “punted” twice... This cycle needs to be addressed.



# More Information

## Oregon Climate Change Portal

<http://www.oregon.gov/ENERGY/GBLWRM/Portal.shtml>

- Western Climate Initiative

<http://www.westernclimateinitiative.org>

- The Climate Registry

<http://www.theclimateregistry.org>

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