California Biomass Collaborative

Joint Forum on Biomass, Biofuels and Bioproducts
"Update on State Policy Initiatives"

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Presentation Outline

- Strategic Value of Biomass Resources
- Governor's Direction on Climate Change, Transportation Fuels and Bioenergy
- Bioenergy Interagency Working Group
- Bioenergy Action Plan Process

Strategic Value of Bio-Energy

- California's untapped biomass resources are large and diverse. These valuable resources can support greater use in electric power, fuels and chemicals.
- Biomass is a renewable resource, which can help solve California's waste disposal and environmental problems and meet state renewable energy goals.
- Bioenergy can achieving multiple state policy objectives of ensuring adequate fuel supply, fuel diversity, energy security and greenhouse gas reduction.
- Other public benefits also include improving forest health, human and animal health and environmental protection, while creating local jobs and economic benefits.

Governor's Direction on Global Climate Change

On June 1, 2005, the Governor issued an Executive Order establishing statewide greenhouse gas reduction targets.

- By 2010, Reduce to 2000 Emission Levels.
- By 2020, Reduce to 1990 Emission Levels
- By 2050, Reduce to 80% Below 1990 Levels

Cal EPA is leading a coordinated effort to implement strategies to achieve the Governor's targets. Public workshops of the Climate Team are being held on January 23, 24, 2006.

Bioenergy in the form of biofuels and methane recovery from landfills are strategies being pursued by the Climate Action Team.

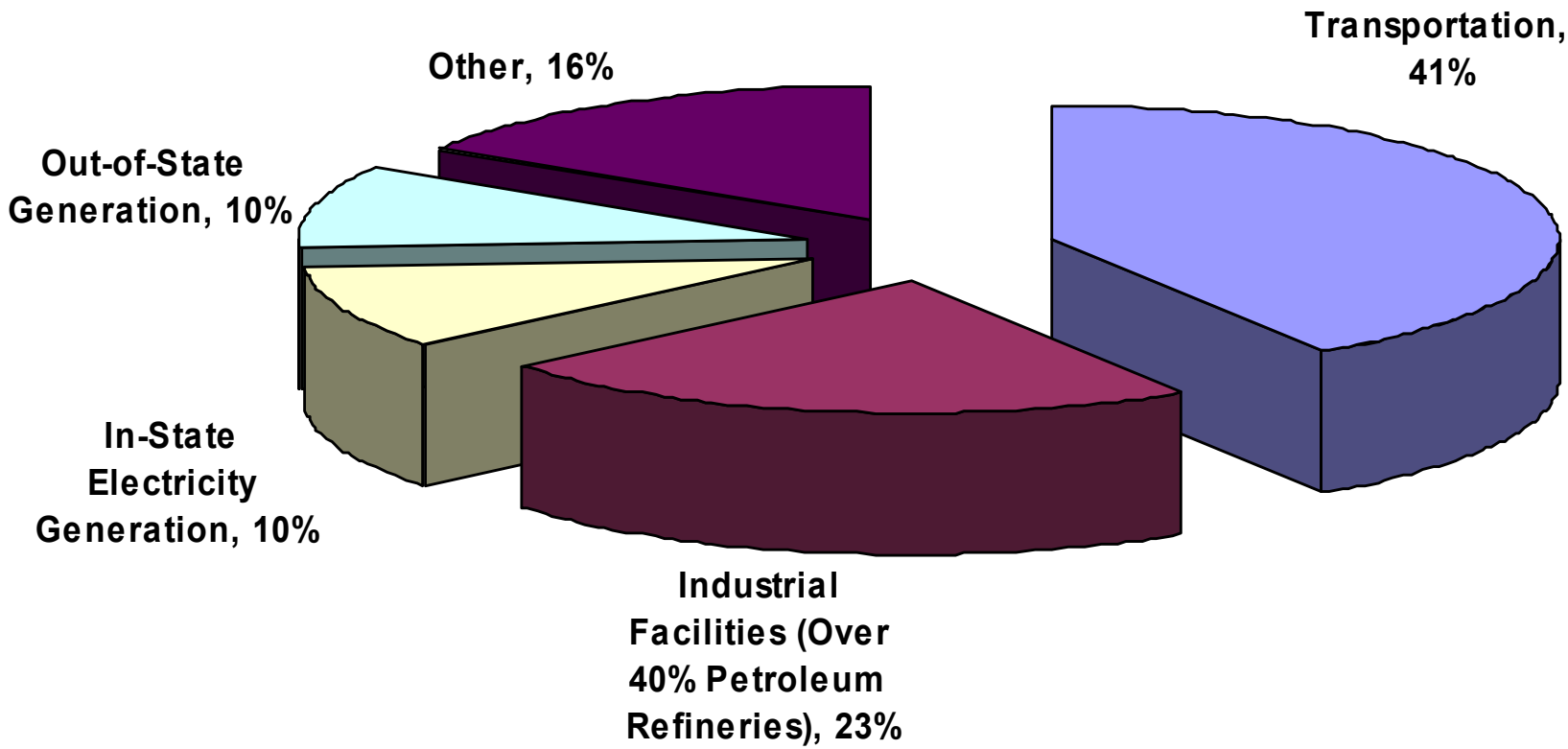
Climate Change Policy Context

California's ranks high in emissions of greenhouse gases

- California has the sixth largest economy in the world, and is the twelfth largest emitter of greenhouse gas emissions, with more GHG emissions than any state but Texas.
- Annually, California emits over 500 million metric tons of carbon dioxide equivalent gases.
- Emissions of greenhouse gases are large and growing, due to population and economic growth.
- Transportation sector is the single largest source of greenhouse gas emissions in California.

California's Greenhouse Gas Emissions

Source: California Energy Commission, 2005.
(million metric tons of carbon dioxide equivalent)



Governor's Direction on Transportation Fuels

Governor Schwarzenegger has directed the Energy Commission to take the lead in crafting a workable long-term transportation fuels plan that will:

- result in the significant reduction of gasoline and diesel use
- increase the use of alternative fuels, including biofuels
- establish a set of realistic, achievable objectives with identifiable and measurable milestones

The first phase of this long-term plan is due on March 31, 2006; a second and more comprehensive plan will be complete by June 30, 2007, in response to state legislation. See AB 1007, Chapter 371, Statutes of 2005.

State Legislative Direction
Alternative Transportation Fuels

- **AB 2076 (Chap. 936, Statutes of 2000) – Joint Energy Commission and Air Resources Board Report**
  - Adoption of petroleum reduction goals for California
  - Reduce gasoline and diesel to 15 percent below 2003 demand levels
  - Increase use of alternative fuels and double fuel efficiency of vehicles
- **AB 1007 (Chapter 371, Statutes of 2005) – Energy Commission; Alternative Fuels Plan.**
  - Develop and adopt a plan no later than June 30, 2007.
  - Work in partnership with the Air Resources Board and affected state agencies.

2005 Integrated Energy Policy Report: Biomass

- Develop a “road map” to guide future biomass management, utilization and development in California.
- Adopt clear and consistent policies for sustainable biomass management, development and use.
- Collaborate on securing federal funding for biomass research, development and demonstration projects.
- Develop biomass education and public outreach programs on the benefits and opportunities of this resource.
- Establish state and local procurement and construction programs to increase biomass.

2005 Integrated Energy Policy Report: Biofuels

- **Applying a "portfolio" approach to alternative transportation fuels, including bio-fuels**
  - Flexible approach to emissions compliance
  - Total net benefits versus a single pollutant focus (e.g. oxides of nitrogen).
  - Examining the effect of biodiesel blending on emissions performance.
- **Achieving multiple policy benefits of fuel diversity, energy security and greenhouse gas reduction**
- **Establishing a Renewable Fuels Standard**
  - Requiring that a percentage of all diesel sold include biodiesel.
  - Establishing state procurement policy favoring biodiesel.

Governor's Direction on Biomass

The Governor has directed the Energy Commission to develop an integrated and comprehensive state policy on biomass:

- Support for the California Biomass Collaborative through the Public Interest Energy Research program;
- Reinvigorate the Bioenergy Interagency Working Group;
- Include in state policy electricity, natural gas and petroleum substitution.
- Reflect the substantial benefits of reducing municipal solid waste and agricultural and forestry residues to fuels, chemicals and other products.

Bioenergy Interagency Working Group

- **Goals:**
  - Identify and develop interagency opportunities to advance biomass-to energy;
  - Address barriers and propose solutions;
  - Create synergy through joint, state level efforts.
- **Membership**: California Energy Commission (Lead), California Public Utilities Commission, Department of Food and Agriculture, Air Resources Board, Department of Forestry and Fire Protection, State Water Board and Integrated Waste Management Board.
- **Timing**: Began meeting regularly in May 2005; Bioenergy Action Plan is expected by March 31, 2006.

Bioenergy Interagency Working Group
Bioenergy Action Plan Objectives

- Expand the use of biomass, biogas, biofuels and bio-based products in a cost-effective manner that maximizes economic and environmental benefits.
- Identify near-term or immediate actions that California state agencies could pursue in 2006 and beyond.
- Expand markets for urban, agricultural and forestry residues, and dedicated energy crops.
- Identify and remove unnecessary regulatory requirements, while ensuring “no environmental backsliding.”

Bioenergy Action Plan Process

- Draft Bioenergy Action Plan expected in mid-February 2006 from our consultants, Navigant Consulting, Inc.
- Stakeholder input is requested from the California Biomass Collaborative and through one-on-one meetings with key stakeholders.
- March 9, 2006 public workshop is planned at the Energy Commission in Sacramento.
- Final Bioenergy Action Plan by March 31, 2006.

Key Questions to be Addressed

1. What is the appropriate state government role in expanding the use of bio-energy?
2. Why have past efforts not been successful?
3. What near-term state actions should be taken in 2006?
4. What priority state actions do you recommend?
5. How can the State balance competing policy objectives?