

# Environmental Issues for Biomass Development in California

Workshop &  
Preliminary Draft  
Whitepaper

Joint Forum on Biomass

26 January, 2006  
Fresno, CA

Rob Williams  
University of California, Davis



- Workshop on “Environmental Regulations and Implications for Biomass Management in California”, Sacramento 9 November, 2005
- Draft Whitepaper on “Environmental Issues for Biomass Development in California”
- This will help inform the California Biomass Roadmap process

# Workshop Format

- The Workshop had about 80 attendees (signed in)
  - Two morning speaker panels:
    - 1) State agencies (CEC, CARB, SWRCB, CIWMB)
- “Key Environmental Challenges - Programs and strategies to reduce impacts in meeting environmental goals” (w.r.t. biomass)

# Workshop Format

- Two morning speaker panels:
  - 2) Industry-users-Environmental groups relating their perspective and experiences
    - » Biopower Industry
    - » Biofuels Industry
    - » Local agency biopower owner operator
    - » Two Environmental Groups
- Three Breakout Sessions in the afternoon organized by resource type
  - Forest
  - Agriculture
  - Municipal

# Asked for “key” environmental issues regarding sustainable use and management of biomass

- Where are the knowledge gaps?
- Are policies and regulations adequate and consistent?
- What issues need resolution to bring stakeholder groups together?
- What RD&D activities are required?

# Reports from Breakout Groups had these Common Themes

- Need for regulation across “multiple media” (i.e., NO<sub>x</sub> vs. VOC/ CO tradeoffs, air quality vs. water quality, criteria vs. toxic emissions, GHG reductions vs. small criteria pollutant increase)
  - Lifecycle accounting or systems approach
- Set performance standards rather than prescriptive technology regulation
  - This obviates need for statutory technology definitions
  - Allows for more innovation by industry
- Continuing need to identify and reduce conflicting regulations and overlapping jurisdiction.
- The need for transparent and independent proof-of-concept or validation projects for future permitting and regulation

# The need for transparent and independent proof-of-concept or validation projects

## ■ Solid Waste Management

- Despite diversion, population growth and consumption driving increase in total disposal
- Jurisdictions looking to ‘Conversion Technologies’ to help stem landfill disposal
- No ‘non-combustion’ thermal technologies for MSW operating North America (one biochemical CT example in Canada)
- Local permitting agencies don’t necessarily have resources to investigate/validate overseas facilities, so lack basis for acceptable/expected performance
- Opposition groups won’t allow projects unless there “verifiable independent third party performance data” [maybe]

# The need for transparent and independent proof-of-concept or validation projects

- Loss of air permit exemptions for Agricultural Operations
- Continuing water quality issues with Confined Animal Feeding Operations (CAFOs) e.g., large dairies



# The need for transparent and independent proof-of-concept or validation projects

- US EPA/CARB dairy manure collaborative is faced with evaluating large number of 'cross-media' manure management technologies/strategies using vendor data only
- Recently released report recommends that state pursue means for independent verification of these systems

# Other Key Issues

- Biofuels
  - EtOH and Biodiesel
    - » Net energy and GHG advantages of each depend on the biomass feedstock type (starch or lignocellulose, oil crops or waste fats, oils, greases)
    - » Criteria and toxic emissions
  - EtOH at low concentration issues in California
    - » Increase in RVP over conventional gasoline for ~E40 and below
    - » Which leads to increased VOC emissions
    - » Potential increase in NOx emissions
- Need to develop means to determine or agree upon the value of external benefits
- And others

# Thank You

