
Afternoon Breakout Sessions

*CA Biomass Collaborative Workshop on
Environmental Regulations & Implications
for Biomass Management
Sacramento, California
November 9, 2005*

Workshop Goal

- The principal goal of the workshop is to obtain stakeholder input on environmental issues facing sustainable management and development of biomass in the state.
- Results will be used
 - in preparation of a white paper detailing key issues
 - in design of a roadmap for biomass development

Breakout sessions by Resource Type

■ **Forest**

- Facilitators:
 - Doug Wickizer (CDFFP)
 - Mark Nechodom (USFS)

■ **Agriculture**

- Facilitators:
 - Cynthia Cory (CA Farm Bureau Federation)
 - Steve Shaffer (CDFA)

■ **Municipal**

- Facilitators:
 - Ruth MacDougall (SMUD)
 - Brenda Smyth (CIWMB)

Breakout sessions by Resource Type

- This room (largest group)
- Room 230
- Room 240

‘Pro and Con’ Issues Matrix (by resource)

- Help to stimulate discussion
- Add to or delete from the matrices during the breakouts

Product of Breakout Sessions

- Produce a list of **KEY** environmental issues that need to be addressed
- Recommendations

Agriculture

	Resource Category	Application/Management Practice	Pro	Con	Regulatory/Policy Issue	Key Issues & Recommendations
Non-product Management	Crop Residues	<ul style="list-style-type: none"> • Soil incorporation • Open burn 	<ul style="list-style-type: none"> • Soil Quality - Incorporation <ul style="list-style-type: none"> ◦ Maintain Fertility ◦ Reduce erosion ◦ • Wild life habitat – Flooding fields <ul style="list-style-type: none"> ◦ Rice fields provide migratory bird habitat • Carbon sequestration in soil 	<ul style="list-style-type: none"> • Disease and weeds from soil incorporation <ul style="list-style-type: none"> ◦ Increased herbicide & fungicide use • Emissions from soil incorporation operation • Run-off of chemicals, ammonia, etc. • Emissions from decomposition of material left in field • GHG emissions from cultivation (e.g., rice fields) <p>Emissions from burning – NOx, PM, VOC</p>	<ul style="list-style-type: none"> • Open burning likely to continue restrictions • AB 1378 (1991) Reduce rice straw burning • SB 704 (2003) \$10/ton for ag. residue (1 yr. only) • SB 705 (2003) Eliminate ag burning in the SJ Valley • SB 700 (2003) Ag. Ops. no longer exempt from air regulations 	
	Manure	<ul style="list-style-type: none"> • Land application • Digester with flare 	<ul style="list-style-type: none"> • Can add organic material and nutrients to soil 	<ul style="list-style-type: none"> • CAFOs <ul style="list-style-type: none"> ◦ Air emissions; feed, barns, lagoons, manure storage ◦ Water emissions; salts, N, P management for ground water protection 	<ul style="list-style-type: none"> • Water regulations (please specify) • Digester air permit requirements 	
	Processing Residues	<ul style="list-style-type: none"> • Land application • Landfill with flare • Digester with flare • Discharge to sewer • Other Treat/discharge 	<ul style="list-style-type: none"> • Can add organic material and nutrients to the soil 	<ul style="list-style-type: none"> • Minimally treated food-processor residues may add contaminants to soil • Emissions of NOx, CO 	<ul style="list-style-type: none"> • Water regulations • LF air permit requirements 	
Commercial Utilization	Crop Residues	<ul style="list-style-type: none"> • <<ALL: • Heat • Power generation 	<ul style="list-style-type: none"> • Reduce fossil carbon emissions from creation of renewable products <ul style="list-style-type: none"> ◦ Heat and power ◦ Transportation fuels ◦ Chemicals and materials 	<ul style="list-style-type: none"> • Increase in some emissions (e.g., NOx and other products of combustion from energy recovery) • Potential negative ground water impact 	<ul style="list-style-type: none"> • Can restrictive NOx limits be offset somewhat by credit for energy production or for reduction of other CAFO emissions? • Local Air district rules for engines, turbines • DG emission requirements (potentially) 	
	Manure	<ul style="list-style-type: none"> • Biofuels 	<ul style="list-style-type: none"> • Reduction in other CAFO air emissions (VOC, NH3, other??) • Reduction in CH4 emissions (lagoons, straw in fields over winter) ? • Potential positive ground water impact • CAFO Water emissions; salts, N, P management for ground water protection 	<ul style="list-style-type: none"> • Increase in some emissions (e.g., NOx and other products of combustion from energy recovery) • Potential negative ground water impact 	<ul style="list-style-type: none"> • AB 1007 (2005) CEC to develop plan for alternative transportation fuels 	
	Processing Residues	<ul style="list-style-type: none"> • Bioproducts 	<ul style="list-style-type: none"> • Reduced ground water impact from improved discharge quality 	<ul style="list-style-type: none"> • Reduced ground water impact from improved discharge quality 		
	Dedicated Crops			<ul style="list-style-type: none"> • Downstream (secondary) emissions from biofuels 		
Other						

What are the **KEY** environmental issues facing the sustainable use and management of the biomass resource?

- Where are the knowledge gaps?
 - Environmental performance of technologies and systems
 - Human health and ecosystem impacts
 - Environmental effects of new policies and strategies (RPS, RFS, etc.)
 - Life cycle assessment/accounting
 - What is 'highest and best use'?
 - Other areas of concern
- Are policies and regulations adequate and consistent (if not, which are not, and what suggestions are there for improvement)?
 - How should policies and regulations be structured?

What are the **KEY** environmental issues?

- What environmental issues need resolution to bring stakeholder groups closer to agreement on how to move forward?
- What research, development, and demonstration (RD&D) activities are required, if any?
- What efforts are needed to expedite improved management and utilization of biomass?
- How might we achieve more sustainable management and utilization earlier rather than later?

Product of Breakout Sessions

- Listing and ranking of KEY environmental issues
- Listing and ranking of Recommendations

Workshop Goal

The principal goal of the workshop is to obtain stakeholder input on environmental issues facing future sustainable management and development of biomass in the state as part of a roadmap design process.

We Want Your Input

Please tell us your view. If you didn't have a chance to be heard at the breakout session, or you have more to add, please put use this form and get it back to us (biomass@ucdavis.edu or post);

California Biomass Collaborative
Biological & Agricultural Engineering
University of California
1 Shields Avenue
Davis, CA 95616-5924

Your name (not required) _____ and/or Affiliation _____

What are the **KEY** environmental issues regarding the sustainable use and management of biomass* resource in the state? [Use back side of sheet if needed]

- Where are the knowledge gaps; are policies and regulations adequate and consistent (if not, which are not, and what suggestions are there for improvement)?

- What environmental issues need resolution to bring stakeholder groups closer to agreement on how to move forward?

- What research, development, and demonstration (RD&D) activities are required, if any?

- What efforts are needed to expedite improved management and utilization of biomass? How might we achieve more sustainable management and utilization earlier rather than later?

* Biomass includes; biogenic fraction of municipal solid waste, municipal and food processor liquid wastes, food processor solid residues, agricultural residues (from crops and livestock), forest industry byproducts and residues, biomass from forest fuels reduction activities, purpose grown trees and crops for energy, fuels, and chemicals.

California Biomass Collaborative
Workshop on Environmental Regulations and Implications for Biomass Management in California,
9 November 2005

Schedule

- Breakout sessions scheduled 2:00 to 3:30
- 3:30-3:40 Short break to allow facilitators to compile results
- 3:40 Reassemble to hear summary reports from facilitators (10 minutes per breakout session)
- Wrap up and adjourn!