Ensuring Sustainability in the Development of Bioenergy in the Pacific Coast Region

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Increasing Demand

• Today, fuel and other types of energy produced from biomass roughly match hydropower as America's largest source of renewable energy.
• Federal and state energy policies, tax credits and other financial incentives are promoting an increase in the use of biomass.
The Challenge

• Growth in demand has raised questions and concerns about the impact of bioenergy on land use, existing wood markets and even global warming.

• We need to insure that biofuels and bioenergy are better than the fossil fuels they're meant to replace. That means ensuring that all bioenergy is produced in ways that actually reduce carbon emissions AND conserve our natural resources (e.g., native species, critical wildlife habitat, water and soil resources).
Science-based policy is essential for guiding a sustainable approach

- **Full carbon life-cycle accounting** to insure that bioenergy production is not actually increasing overall emissions.
  - Emissions from harvesting activities (e.g., removal of live trees and soil disturbance).
  - Emissions from transportation and production (e.g., chipping).
- **Minimum Safeguards** to protect critical ecological values.
  - Critical habitat (intact wildlands; old-growth; T/E, critically imperiled, imperiled and vulnerable spp./ecosystems).
  - Preventing the conversion of diverse native habitat to bioenergy plantations.
- **Performance-based incentives** to encourage the adoption of sustainable management practices in working forests to protect other important ecosystem values (soil, biodiversity, water).
Beyond Carbon . . . What does sustainable bioenergy mean exactly?

More than sustaining feedstock supply
More than protecting critical habitat

Three Core Principles
Environmental Issues (biodiversity, air, water, soil)
Social Concerns (workers and communities)
Economic Viability (business plan, markets, costs, etc.)
Environmental Criteria

- Maintain High Conservation Value Forests (e.g., old growth, T/E, imperiled, vulnerable, etc.).
- Conserve biological diversity and ecological functions within the working forest.
- Protect water and soil resources.
- Air quality (transportation/processing).

*Photo Credit: Thomas Hamer, Hamer Environmental L.P.*
Social/Economic Criteria

- Legality
- Human and Labor Rights
- Rural and Community Development
- Land Rights
- Management Planning (supply, business, environmental etc.)
- Monitoring and Assessment
Some Examples of Existing Voluntary Certification Programs for Woody Biomass

Forest Stewardship Council (FSC)
- Specific to forest-based products (natural and plantations) and international in scope (with US national standards). Biomass and whole tree harvests are addressed along with other types of removals.
- Multi-stakeholder process.
- Includes environmental and socio-economic criteria.
- Chain-of-custody verification to track product through the supply chain.
- Well respected and established in the market-place today.

Roundtable on Sustainable Biofuels (RSB)
- Generic to all crops and international in scope – Program will benchmark existing standards (e.g., FSC) and identify any gaps.
- Broad multi-stakeholder consensus.
- Includes (environmental, social and GHG/Climate criteria.
- Pilot testing is underway.

Council on Sustainable Biomass Production (CSBP)
- US-based standard for all second generation cellulosic feedstocks for both fuel and power generation.
- Multi-stakeholder process.
- Pilot testing expected to begin in April.
Avoiding Conflicting Policy Outcomes and Unintended Consequences

Source: EPFL Energy Center - RSB
Thank you!

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