

California Environmental Protection Agency



Air Resources Board

*LCFS Sustainability
Workgroup Meeting*

March 17, 2011



Agenda

- Welcome and Introductions
- Recap of Soil, Water, and Air Sustainability
 - Principles and Criteria
- Biodiversity Sustainability
 - Draft Principle and Criteria
- Presentations



Recap of Soil, Water, and Air Sustainability

Michelle Buffington



Soil Sustainability Principle

Soil quality is maintained or improved by minimizing erosion, enhancing carbon sequestration, and promoting healthy biological systems and chemical and physical properties.



Soil Sustainability Criteria

Operators should ensure that:

- A good practices management plan is implemented that includes practices that prevent or reverse degradation over the long term;
- Soil quality is maintained or improved;
- Erosion is avoided;
- Soil is conserved;
- Soil productivity is maintained or improved;



Soil Sustainability Criteria – Cont'd

Operators should ensure that:

- Field travel zones or paths are limited;
- Nutrient levels of soil or plants and soil are monitored and assessed;
- Biomass production or collection will not destroy or damage large above or below ground carbon stocks; and
- None of the chemicals recorded in the WHO's 1a and 1b list should be used.



Water Principle

Water quality and quantity should be maintained or improved, while respecting water rights and complying with applicable laws and regulations.



Water Sustainability Criteria

Operators should ensure that:

- The quality and quantity of groundwater is not depleted;
- Both formal and customary water rights are respected;
- Soil erosion is minimized by developing conservation measures;
- Irrigation is carried out responsibly and according to any best practice guidance or legislation;

Water Sustainability Criteria – cont'd

Operators should ensure that:

- Recommendation regarding fertilizer use is given by professionals;
- None of the chemicals recorded in the WHO's 1a and 1b list should be used; and
- Waste is disposed of appropriately and responsibly.



Air Principle

Air pollution from biofuel operations shall be minimized along the supply chain.



Air Sustainability Criteria

Operators should ensure that:

- Air pollution emission sources from biofuel operations are identified;
- Air pollution emissions are minimized through the implementation of an air management plan or by complying with applicable laws and regulations; and
- Open burning of residues, wastes, or by-products are avoided or eliminated from biofuel operations.



Discussion on Biodiversity Sustainability

Aubrey Sideco



Biodiversity Sustainability Principle

Biological diversity should be conserved or enhanced by protecting land with high biodiversity value or high carbon stock and avoiding negative impacts from biomass production and biofuel operations.



General Categories of Criteria

- Impact Assessment
- Management Plan
- Land Conversions
- Buffer Zones and Ecological Corridors
- Invasive Species
- Rare, Threatened, and Endangered Species
- Biofuel Production



Impact Assessment

- Operators should identify the conservation value(s) within the area of a potential or existing operation
- To support management planning, operators should assess vegetation cover types and wildlife habitats
- An assessment of environmental impacts should be completed and integrated into the management plan and operation system



Management Plan

- Establish conservation zones and protection areas
- Maintain ecosystem functions and services
- Control and monitor the use of exotic species
- Protect endangered species
- Written plans should be prepared and implemented to protect biological diversity, ecosystems, and conservation values.



Land Conversions

- Forest conversion to plantations or non-forest land uses should be avoided
- Biomass production on grassland with high biodiversity should be avoided
- Feedstock production or processing operations should be legally authorized as part of the conservation management for the area concerned.



Buffer Zones and Ecological Corridors

- Biofuel operations should protect, restore, or create buffer zones.
- Ecological corridors should be protected, restored, or created to minimize fragmentation of habitats.



Invasive Species

- Biofuel operations should prevent invasive species from invading areas outside the operation site.
- The use of exotic species should be carefully controlled and actively monitored to avoid adverse ecological impacts.



Endangered Species

- The status of rare, threatened, or endangered species and high conservation value habitats shall be identified and their conservation taken into account in management plans and operations.
- Operators should ensure that safeguards exist which protect these species and their habitats.
 - Establish conservation zones and protection areas
 - Control inappropriate hunting, fishing, trapping, and collecting



Biofuel Production

- Biofuel operations and biomass production should conserve or enhance biological diversity



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Thank You!