



CALIFORNIA ENERGY COMMISSION

PROPOSED DRAFT REGULATORY LANGUAGE FOR SUSTAINABILITY GOALS

ALTERNATIVE AND RENEWABLE FUELS AND VEHICLE TECHNOLOGY PROGRAM

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Committee Workshop
Sacramento, CA
September 9, 2008

DOCKET	
08-012-1	
DATE	SEP 09 2008
RECD.	SEP 09 2008



AB 118 Sustainability Provisions

Section 44271(a)(2)

“Establish sustainability goals to ensure that alternative and renewable fuel and vehicle deployment projects, on a full fuel-cycle basis, will not adversely impact the state’s natural resources, especially state and federal lands.”



Preferences to Projects Maximizing Environmental Criteria

Section 44272(b)

- Consistency with Climate Change Policy and Low Carbon Fuel Standard
- Project's ability to reduce criteria pollutants and multi-media impacts
- Project's ability to decrease water pollutants
- No adverse impact to sustainability of state's natural resources
- Project's ability to reduce GHG emissions by at least 10% from petroleum baseline on a life-cycle basis



Overview of Staff Efforts to Develop Sustainability Goals

- Consulted with experts on sustainability and alternative fuels
- Consulted with agency partners:
 - Air Resources Board, Cal Food and Ag., Cal Forestry and Fire, US EPA Reg. 9 and HQ
- Consulted with energy developers to learn about current production practices and projects
- Met with stakeholders groups to understand concerns and ideas



Overview of Staff Efforts to Develop Sustainability Goals

- Reviewed literature on sustainability and certification programs for alternative fuels
- Developed strategic partnership with UC Davis
- Convened Sustainability Working Group
- Developed staff white papers and concept proposals



Overview of Staff Efforts to Develop Sustainability Goals

- May 28-30 – Co-Sponsor Sustainability Conference with Cal Biomass Collaborative
- July 8 – Release of “AB 118 Sustainability Concept Paper” and Initial Staff Workshop
- July 14 – Presentation to BioEnergy Work Group at UC Davis
- July 24 – Informal Stakeholder Discussion on Sustainability Concepts
- Aug 15 – Sustainability Working Group Meeting
- Aug 29 – Release of Draft Sustainability Goals
- Sept 5 – Working Discussion Draft of “Integrated Sustainability Framework Proposal”
- Sept 9 – Committee Workshop to Review Draft Sustainability Regulations



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Sustainability and AB 118 Program Elements



Sustainability and AB 118

- Statute Requires CEC to Develop Sustainability Goals
- **Regulations**
 - CEC intent to have broad, flexible sustainability goals
 - Four draft goals proposed for regulation to meet statutory obligation
- **Investment Plan**
 - Continuing development of sustainability concepts
- **Solicitation**
 - Sustainability “characteristics” and eventual evaluation “criteria” incorporated in IP and Solicitation



Energy Commission Approach

- Initial focus on bioenergy crops and biomass resources due to controversy over natural resource impacts and land use effects
 - Will eventually address other fuel pathways with environmental effects
 - Electric drive
- Initial California focus
 - Statutory direction
 - Assuming sustainability means environmental performance beyond regulatory standards, need to develop new concepts to implement
- National-Level Sustainability Definitions and Criteria
 - Track work from federal agencies and national working groups
- International Certification of Sustainable Production
 - Staff tracking main international programs
 - No assessment work yet



What Sustainability Factors Will We Consider in Full Fuel-Cycle Analysis ?

Environmental and Ecological Factors

GHG Emissions	Energy Use	State & Federal Lands
Criteria & Toxic Emissions	Biodiversity	Land Use Changes
Water Use	Ecosystems & Habitats	
Waste Water Discharge	Forest Cover	

Economic Factors

Economic Development Benefits	Costs to Developers for Certification and AB 118 Application Preparation
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Social Factors

Public Health Effects	Environmental Justice / Disproportionate Effects to Disadvantaged Populations
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Staff Assumptions

- Sustainability means “lower impact” not “zero impact”
- Sustainability encompasses global environmental and social issues and cannot be limited to “state’s natural resources”
- Sustainability goals and measures will require environmental performance and production practices that exceed extant regulatory standards
- Infrastructure cannot be separated from fuel pathway



Staff Goals for Sustainability

- Flexible framework for evolving Investment Plans
- Promote sustainability without undue burden to emerging technologies
- Recognize long-lead time for some fuels
- Continue to learn about Indirect Land Use Effects and Food v. Fuel issues
- Complement the work of ARB on LCFS



Staff Goals for Sustainability

- Identify benchmark-caliber systems for sustainability and certification that can be used in California markets
- Balance “California-centric” provisions of AB 118 with reality of global market
- Leverage California’s market size and environmental ethic to drive international standards towards systems of certified, sustainable production.



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Proposed Sustainability Goals and Definitions for Draft Regulations



Goal 1 – GHG Reductions

The first sustainability goal shall be the **substantial reduction of GHG emissions to help meet California's 2020 and 2050 targets** as defined in Section 38550 of the Health and Safety Code and the Governor's Executive Order S-03-05. Towards that end, the Energy Commission or its assigned policy committee shall identify and support fuel and technology options with the best potential for meaningful reductions in transportation-related GHG emissions."



Goal 2 – Natural Resource Protection and Environmental Performance

The second sustainability goal shall be to **protect the environment, including all natural resources**, from the environmental effects of alternative and renewable fuel development and **promote the superior environmental performance** of alternative and renewable fuel infrastructure and vehicle technologies. Towards that end, the Energy Commission or its assigned policy committee shall do the following:



Goal 2 – Natural Resource Protection and Environmental Performance

- (a) Recognize, support, and encourage production of alternative and renewable fuels and vehicle technologies that are **more environmentally efficient and less environmentally damaging** than current standard practices for the production of petroleum fuels, production of basic agricultural commodities, and extraction of natural resources **when measured on a life-cycle basis**.
- (b) Recognize and support production practices for alternative and renewable fuels that **respect the physical carrying capacity limits of natural systems** at the local, regional and global scale.



Goal 3 – Certification of Sustainable Practices

The third sustainability goal shall be to **support certified sustainable production of alternative fuels**. Towards that end, the Energy Commission or its assigned policy committee shall do the following:

- (a) Identify and promote practices and programs that support certified, sustainable production of alternative and renewable fuels to provide California markets with low GHG emission fuels while providing economic benefits to the areas in which production occurs.
- (b) Consult with the ARB and stakeholders through the Advisory Committee to identify internationally recognized sustainability certification programs.



Goal 4 – Avoid Unanticipated Consequences

The fourth sustainability goal shall be to **minimize or avoid the risk of alternative and renewable fuel production causing unanticipated consequences**. The Energy Commission or its assigned policy committee shall use adaptive management, continuous research, use of full-fuel-cycle modeling tools, and establishment of a database for post-project environmental and economic monitoring of projects funded under this **program to ensure that unanticipated consequences to the environment, food supplies, and social welfare will not occur**.



Regulatory Definitions

- (1) **“State’s natural resources”** include forest lands, range lands, waters and watersheds, biodiversity resources (fish, wildlife, and flora) and their prime habitats, coastal lands and waters, minerals, and prime agricultural lands.
- (2) **“State and federal lands”** include surface and subsurface (water bottoms and tidal zones) lands owned wholly or in part by any branch or division of the state or the federal government.



Regulatory Definitions

- (3) “**Environmental performance**” denotes the relative environmental efficiency and levels of environmental impacts from industrial facilities, agricultural operations or natural resource extraction activities. Facilities with high levels of environmental performance use fewer natural resource and energy inputs per unit of fuel output, and have lower environmental impacts, than low environmentally performing facilities.
- (4) “**Carrying capacity**” is the ability of an air basin, watershed, ecosystem, or landscape area to withstand resource extraction or absorb pollution loading until its basic functions are impaired



Proposed Integrated Framework for Sustainability Assessment for AB118

- AB 118 is an Incentive Program Based on Public Money:
 - Set High Standards for Sustainability
 - Identify and Promote Transportation-Related GHG-Reduction Projects that are Exemplary in Sustainability and Environmental Performance
 - Support Projects that Can Serve as National and International Models



4 Elements of Framework

1. Investment Plan
 - Funding Priorities for Projects that Meet Program Goals
 - Possible Funding for Sustainability Research
2. Minimum Environmental Performance Measures
 - Eligibility Thresholds = Screening System
 - Based on AB 118 Statutory Language
3. Sustainability Goals
4. Sustainability Characteristics
 - Possible Evaluation Criteria
 - Scoring system, not screening system



Sustainability Characteristics

- The proposed project “characteristics” will likely evolve into some type of evaluation criteria in the Investment Plan and Solicitation to assess how proposed projects meet the sustainability goals
- Intended as Scoring System and not screening or punitive system



Sustainability Goal No. 1

Substantial Reduction of GHG Emissions to Help Meet California's 2020 and 2050 Targets (29% and 80% below 1990 baseline)

Characteristics

1. Minimum 10 percent life cycle reduction in GHG emissions from petroleum baseline for direct and indirect land-use effects
2. Recognize potential of "bridging technologies" and "long-term incubation" effects to further goals



Sustainability Goal No. 2

Protect the Environment and Natural Resources and Promote Superior Environmental Performance

Characteristics

3. Maximize waste-stream feedstock use
4. Efficient use of natural resources and less environmental damage than petroleum, agricultural and natural resource extraction baselines
5. Test & demonstration of cultivation for purpose grown energy crops with Best Management Plan



Sustainability Goal No. 2 – (Characteristics – Continued)

6. Use recognized certification / reporting systems
7. Biofuel crops and feedstocks uniquely suitable to CA resource/climate constraints
8. Use extant agricultural lands to minimize ecosystem impact
 - Exclude feedstocks from Conservation Reserve Lands?
9. Renewable energy/cogeneration used in production
10. Creation of co-benefits to natural resources



Sustainability Goal No. 3

Support Certified Sustainable Production of Alternative Fuels

11. Recognize “Best-Available, Most Sustainable” production methods and practices.
12. Recognize use of internationally-recognized certification and reporting systems.



Sustainability Goal No. 4

Minimize Risk of Unanticipated Consequences from Alternative Fuel Production

- Adaptive Management
- Continuous research into emerging topics:
 - Indirect Land Use, Food v Fuel
- Continue developing GREET and other data management and analytic tools to assess sustainability
- Develop database for data from post-project monitoring

Characteristic 13: Recognize projects that avoid disproportionate impacts to disadvantaged communities and that create economic benefits