

CALIFORNIA ENERGY COMMISSION STAFF WORKING DRAFT DISCUSSION PAPER

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DRAFT SUSTAINABILITY FRAMEWORK FOR AB 118 PROJECTS

Introduction

Staff proposes an integrated framework for sustainability that includes Investment Plan guidance and funding categories, a series of minimum environmental performance measures, the four sustainability goals, and the sustainability characteristics.¹ At the end of this staff paper, two checkboxes are introduced that intend to summarize and illustrate how the threshold screening questions and the characteristics might be applied to hypothetical projects.

This framework is presented as a work in progress. Energy Commission staff welcomes stakeholder comment on the overall conceptual approach and on each element of the proposed framework as the Energy Commission seeks the appropriate balance of new sustainable practices that can produce environmental quality, social and economic benefits, while promoting the commercial viability of promising alternative fuel production and vehicle technologies.

Sustainability Elements

The funding categories presented in the *Investment Plan* will guide the Energy Commission's investments towards fuels and technologies that are the most sustainable in the broadest sense; funding those fuels and technologies with the greatest potential to reduce greenhouse gas emissions while leaving the smallest possible environmental footprint.

The *Investment Plan* will also contain a discrete funding category for sustainability support activities. These activities could include projects such as the development of Best Management Practices for purpose-grown energy crops, evaluation or auditing of international sustainability certification programs, or on-going technical research into how to integrate environmental data from AB 118-funded projects into the California GREET model.

¹ This California Energy Commission staff working draft discussion paper builds on concepts presented in the *Regulatory Concepts on Sustainability Goals for the Alternative and Renewable Fuel and Vehicle Technology Program*, Draft Staff Paper (Jim McKinney), Energy Commission, July 2008, Publication No. CEC-600-2008-D and the September 4, 2008 Sustainability Working Group meeting.

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The **sustainability goals** reflect the Energy Commission's long-term objectives for sustainable production of alternative fuels. The proposed goals also reflect the Energy Commission's interpretation of the statutory priorities for sustainability as defined in AB 118, hence the emphasis on greenhouse gas emission reductions and natural resource protection. The goals are defined in proposed regulations.

The **minimum environmental performance measures** are intended to serve as screening thresholds for AB 118 project eligibility. The measures are based on staff interpretations of the preference criteria described in section 44272(c) of AB 118. The measures reflect or build upon the current environmental regulatory compliance requirements as used in the California Environmental Quality Act (CEQA) and in major environmental permit review required by local, state, and federal laws. Staff proposes to reinforce the preferences for greenhouse gas emissions reductions, criteria emissions, water quality and water supply, and natural resource protection by using them as minimum environmental performance measures for AB 118 funding eligibility.

The Energy Commission will use the regulations developed by the Air Resources Board for the Air Quality Improvement Program portion of AB 118 to ensure continued progress in meeting air quality goals for California. These draft regulations include a provision to identify and reduce any environmental justice-related impacts.

For water use and waste water discharge, Energy Commission staff proposes applying the Energy Commission's water use policy for thermal power plants that was introduced in the *2003 Integrated Energy Policy Report*.

In essence, the thresholds become first-order sustainability screening criteria for applications for AB 118 project funding. All proposed projects would need to meet the thresholds to be eligible for AB 118 funding. However, meeting the thresholds is not sufficient for a project to be considered sustainable under AB 118; the substantive analysis of sustainability will occur by way of the sustainability characteristics and evaluation criteria described below.

The **sustainability characteristics** will form the basis of a set of evaluation criteria that will be used to assess how well each proposed project can meet the sustainability goals. Staff proposes to use the characteristics as a ranking system and not as an exclusionary or threshold-type screening system. In a competitive bid system, the projects with the best scores for sustainability will have higher rankings than those with lower scores. In other words, the characteristics will be used to identify projects with the highest levels of sustainability attributes, and will not explicitly exclude any projects or classes of projects. Staff's goal is to create an incentive system that encourages the most innovative and sustainable alternative fuel production practices. It is not a regulatory program; projects not seeking AB 118 funding can proceed without meeting program criteria. Many worthwhile projects may succeed in the market even if they do not win AB 118 funding as a result of their sustainability scores or other rating factors.

Staff has not yet determined how to weigh or score each of the sustainability characteristics. Should they be weighed equally, or should the characteristics be ranked and weighed according

to a set of policy preferences? Should they be used on a purely quantitative scoring basis, or is a more qualitative approach appropriate? Stakeholder comment is welcome on this topic.

Staff proposes the following set of statutory interpretations, goals, and characteristics as the integrated framework for sustainability to comply with the main sections of the AB 118 legislation.

A. Minimum Environmental Performance Measures

AB 118 includes the aforementioned directive to the Energy Commission to develop sustainability goals to protect natural resources. It also includes the funding preferences, and references to anti-backsliding provisions for air emissions. In sum, AB 118 provides specific direction and factors to be used in crafting the sustainability elements of the AB 118 funding program.

The Energy Commission proposes four minimum environmental performance thresholds for funding eligibility based on the preference criteria. In some instances these measures exceed existing environmental law and regulation, while in others, they mirror existing standards created by the Air Resources Board for AB 118 and the Low Carbon Fuel Standard.

1. Consistency with State Climate Change Policy and the Low Carbon Fuel Standard:

The Energy Commission would give strong preference to projects with the greatest potential to substantially reduce transportation-related greenhouse gas emissions in order to help achieve the state's climate change policy goals as articulated in AB 32 and the Governor's Executive Order. The greatest preference would be given to applicants who could demonstrate that their projects could achieve or exceed a target of a 10 percent reduction in greenhouse gas emissions on a life-cycle basis from the petroleum baseline, including direct and indirect land-use change effects.² In addition:

- a) As per the Air Resources Board's anti-backsliding regulations for AB 118, projects with greenhouse gas emissions that exceed the petroleum baseline on a full fuel-cycle basis would not be eligible for funding consideration.

² Energy Commission staff has evaluated establishing a firm threshold of a 10 percent minimum GHG reduction from the petroleum baseline as an eligibility standard for AB 118 funding. Given the continuing uncertainty about the precision of indirect land use GHG emissions estimates (see, for example, the Air Resources Board's *Supporting Documentation for the Draft Regulation for the California Low Carbon Fuel Standard*, October 2008), staff concludes that a GHG reduction target is more appropriate for AB 118 than a firm, minimum threshold. For example, if the Energy Commission received two funding applications, one for a project with 9.8 percent lower GHG emissions than the petroleum baseline and one for 10.1 percent lower emissions, it would be more appropriate to evaluate both project applications fully on their merit, rather than conclude that one was environmentally superior due to a 0.3 percent difference in estimated GHG emissions reductions.

- b) All applicants will be required to submit information describing how their project minimizes greenhouse gas emissions at each phase of production (feedstock production, feedstock transport, processing, product distribution and/or retail sales).

2. Avoiding Impacts to Natural Resources: AB 118 grant applicants with projects subject to the California Environmental Quality Act would need to:

- a) Demonstrate compliance with all applicable local, state and federal laws, and
- b) Mitigate all potentially significant adverse effects to state natural resources to non-significant levels.

For projects with the potential to affect natural resources that do not trigger CEQA compliance, Energy Commission staff would require sufficient information from applicants to allow for an independent assessment of the natural resource issues associated with the project application. Additionally,

- c) Grant applicants would need to document implementation and conformance with applicable, existing Best Management Practices developed by natural resource and pollution control agencies that are germane to the production phase(s) of the alternative fuel pathway encompassed by the AB 118 funding application.

3. Protection of Efforts to Achieve and Maintain Federal and State Ambient Air Quality Standards: AB 118 grant applicants would need to demonstrate compliance with the anti-backsliding regulations defined by the Air Resources Board in the implementing regulations for the Air Quality Improvement Program of AB 118. The anti-backsliding measures include:

- a) Compliance with all applicable air quality laws and regulations,
- b) Evaluation of local health impacts to ensure the equitable treatment of all Californians consistent with state law defining environmental justice,
- c) Compliance with California's New Source Review program for infrastructure projects with stationary source emissions, including any requirements to install Best Available Control Technologies (BACT) and purchase "offsets," as required by the air district in which the proposed project would be located, and
- d) Submit a written commitment to comply with all additional air quality mitigation strategies required by the regulatory oversight agencies, including environmental justice issues.³

³ *Proposed AB 118 Air Quality Guidelines for the Air Quality Improvement Program and the Alternative and Renewable Fuel and Vehicle Technology Program, Initial Statement of Reasons for Proposed Rulemaking, California Air Resources Board Staff Report, August 8, 2008.*

4. **Protection of Water Quality and Water Supply:** AB 118 grant applicants would need to secure all required water quality permits for point and nonpoint source discharges, and all permits associated with the potential to affect groundwater resources (such as underground or above-ground tanks containing materials hazardous to water quality). In addition, applicants for infrastructure projects would need to demonstrate compliance with the Energy Commission’s water use and waste-water discharge policy for thermal power plants.”

Consistent with State Water Resources Control Board Policy 75-58 and the Warren–Alquist Act, the Energy Commission will approve the use of fresh water for cooling purposes by power plants it licenses only where alternative water supply sources and alternative cooling technologies are shown to be “environmentally undesirable” or “economically unsound. Additionally, the Energy Commission will require zero liquid discharge technologies unless such technologies are shown to be “environmentally undesirable” or “economically unsound.”⁴

Projects producing nonpoint source discharges, including runoff from agricultural irrigation practices, must demonstrate compliance with Section 13269 of the California Water Code (Irrigated Agricultural Waiver), as administered by the California State Water Resources Control Board.

B. Sustainability Goals

Energy Commission staff proposed the following process guidance and sustainability goals in the October 2008 package of revised draft regulations. Sub-parts (a) to (c) describe process obligations, while sub-parts (d) to (g) describe the four sustainability goals:

- (a) The sustainability goals described in this section shall guide the commission in ensuring that funded projects promote sustainable alternative fuels and vehicles and do not adversely affect natural resources.
- (b) To achieve these sustainability goals, the commission shall establish, through a public process, and prior to issuing project solicitations:
 - (1) Environmental performance measures that will serve as screening thresholds for project eligibility; and
 - (2) Project evaluation criteria, in addition to those set forth in Health and Safety Code Section 44272(b), that will be used to rank each project’s furtherance of the program’s sustainability goals and will incentivize the most innovative and sustainable alternative fuel production practices and vehicle technologies.
- (c) These measures and criteria shall be reviewed once a year, and updated as necessary, to take into account best available science, existing certification programs, consistency with

⁴ 2003 *Integrated Energy Policy Report*, California Energy Commission, December 2003, Publication No. 100-03-019.

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other regulatory programs, including the Low Carbon Fuel Standard, and other relevant information.

- (d) The first sustainability goal shall be the substantial reduction of greenhouse gas emissions associated with California's transportation system to help meet California's 2020 and 2050 targets as defined in Health and Safety Code Section 38550 and the Governor's Executive Order S-03-05. Towards that end, the commission or its assigned policy committee shall identify, support and give preference to those fuel and technology options with the best potential for substantial reductions in transportation-related greenhouse gas emissions.
- (e) The second sustainability goal shall be to protect the environment, including all natural resources, from the effects of alternative and renewable fuel development and promote the superior environmental performance of alternative and renewable fuels, infrastructure and vehicle technologies. Towards that end, the commission or its assigned policy committee shall do the following:
 - (1) 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.
 - (2) Recognize and support production practices for alternative and renewable fuels that preserve ecosystem integrity, protect and enhance the resiliency of natural ecosystems, and that respect the physical carrying capacity limits of natural systems at the local, regional and global scale.
- (f) The third sustainability goal shall be to support verifiable sustainable production of alternative and renewable fuels. Towards that end, the commission or its assigned policy committee shall do the following:
 - (1) Identify, promote, and collaborate in the development of practices and programs that support sustainable domestic and international production of alternative and renewable fuels for the California markets while providing economic benefits to the areas in which production occurs.
 - (2) Consult with the Air Resources Board and stakeholders through the Advisory Committee to identify internationally recognized certification programs that can confirm sustainable production of alternative and renewable fuels in accordance with leading national and international standards.
 - (3) Undertake, and make available to the public, an annual review of sustainability principles and programs, including those developed at the state, national, and international levels.

- (g) The fourth sustainability goal shall be to minimize or avoid the risk of alternative and renewable fuel production causing unanticipated environmental, economic, or social consequences. The commission or its assigned policy committee shall do the following:
- (1) Use adaptive management, continuous research, and full fuel cycle modeling tools developed in collaboration with the Air Resources Board.
 - (2) Develop reporting requirements for persons or entities receiving program funding and establish a database for post-project monitoring of projects funded under this program to improve understanding of full fuel cycle impacts on the environment and monitor for unanticipated consequences to the environment, food supplies, and social welfare.

Section 3102 Regulatory Definitions

For purposes of section 3101, the following regulatory definitions shall apply:

- (a) "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.
- (b) "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.
- (c) "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."⁵

Non-Regulatory Definition of "Sustainability"

Staff offers the following non-regulatory definition of "sustainability" as applied to alternative transportation fuels and vehicle technologies. Sustainability means that:

1. Amounts of land and natural resources used for alternative fuel production, and the resulting pollution loading from air, water, toxic and solid waste streams, do not create significant, project-level impacts to already damaged ecosystems, water basins and air basins in California, the United States, and around the world.
2. Production practices recognize and respect the physical carrying capacity limits of natural systems at the local, regional, and global scale.

⁵ Revised Draft Regulatory Language, California Energy Commission AB 118 Rulemaking, Docket No. 08-OIR-1, October 30, 2008. <http://www.energy.ca.gov/ab118/documents/index.html>.

3. Production practices respect human dignity and contribute to the economic welfare of people around the world.

C. Sustainability Characteristics and Evaluation Criteria

In the July 2008 draft staff paper *Regulatory Concepts on Sustainability Goals for the Alternative and Renewable Fuel and Vehicle Technology Program*, staff proposed a series of project characteristics that would identify projects with the attributes that could best achieve the sustainability goals defined in regulation. At the August 15, 2008, Sustainability Working Group meeting, staff described how the characteristics would be separated from the goals for the rulemaking to allow for more time for staff and stakeholder dialogue and for more staff consultation and research into programs that have already defined sustainability for alternative fuels and that have developed certification programs. Staff described how the characteristics would be further described in the Investment Plan and ultimately defined and used as evaluation criteria in the Solicitations. Although the characteristics will not be part of the AB 118 program regulations, they will be used in the solicitations as sustainability evaluation criteria to identify projects that can best meet the sustainability goals defined in the AB 118 regulations. Energy Commission staff intends to further refine the evaluation criteria and develop a prioritization or weighed scoring system through the Sustainability Working Group (or example, projects with very low greenhouse gas emissions profiles would score highly on Characteristic No. 1). Projects would then be scored or ranked on their sustainability attributes. This sustainability ranking would then be integrated into the other evaluation criteria defined in the Investment Plan and Solicitation. Comments on the characteristics and a weighting or prioritization system are welcome.

The sustainability characteristics for each goal are summarized below. Each characteristic is intended to be used as an evaluation criterion to assess how each project can achieve each of the four regulatory goals.

Sustainability Goal 1 – Substantial Reductions of Greenhouse Gas Emissions to Meet California’s 2020 and 2050 Targets

Characteristic 1: The Energy Commission will give high preference to projects with the greatest potential to substantially reduce transportation-related greenhouse gas emissions in order to help achieve the state’s climate change policy goals as articulated in AB 32 and the Governor’s Executive Order. Projects with greenhouse gas emissions that exceed the petroleum baseline on a full fuel-cycle basis will not be eligible for funding consideration.

Sustainability Goal No. 2 – Natural Resource Protection and Promotion of Superior Environmental Performance

Characteristic 2: The Energy Commission can promote projects that minimize environmental impacts and the use of natural resources by recognizing projects that maximize the use of waste stream materials as their feedstock.

Characteristic 3: Projects that use natural resources more efficiently and create less environmental damage than the petroleum, agricultural, or natural resource extraction baselines will further sustainability goals.

Characteristic 4: Projects that use forest biomass resources as part of their feedstock that “do not diminish the ecological value of forest stands and where such biomass production is consistent with forest restoration and management of fire prone and/or maintained ecosystems”⁶ would best further sustainability goals for forest-related natural resources.

Characteristic 5: Projects that use purpose-grown energy crops from California that test and demonstrate cultivation practices and processing procedures from a Sustainability Best Management Practices Plan⁷ developed for the subject crop along with the Biomass Collaborative and Bio-energy Working Group at the UC Davis, or another such recognized land grant institution, will further sustainability goals.

Characteristic 6: The Energy Commission can encourage the development and production of sustainable biofuels appropriate to California’s environment, and which may provide additional environmental benefits, by seeking out and assessing pilot projects featuring purpose-grown energy crops that are uniquely suited to meet California’s climate, water and natural resource constraints.

Characteristic 7: The Energy Commission can encourage alternative fuel and transportation projects that minimize impacts to natural landscapes and ecosystems by recognizing projects with feedstocks originating on extant agricultural areas historically used for agricultural purposes. Projects with feedstocks from lands used for conservation, such as the Conservation Reserve Program, could potentially be in conflict with AB 118 sustainability goals and would be closely reviewed.

Characteristic 8: The Energy Commission can further sustainability goals to protect natural resources by recognizing projects that create benefits to the state’s natural resources or promote amelioration of degraded resources.

Characteristic 9: The Energy Commission can further sustainability goals by recognizing projects that use renewable energy and/or cogeneration in production, processing, and distribution phases.

⁶ This characteristic will be developed further by the Energy Commission staff through the Sustainability Working Group. This language is derived from a comment letter from the Environmental Defense Fund to the Air Resources Board on sustainability issues related to the Low Carbon Fuel Standard, June 5, 2008.

⁷ Professor Stephen Kaffka at UC Davis, Co-Director of the California Biomass Collaborative, has informally agreed to this concept. See his presentation to the August 15 Sustainability Working Group for examples of how such BMPs could be developed: http://www.energy.ca.gov/ab118/documents/2008-08-15_workgroup/presentations/Best_Management_Practices_Kaffka.PDF.

Sustainability Goal No. 3 – Certification of Sustainable Production Practices

Characteristic 10: The Energy Commission can further sustainability goals by recognizing projects that include a commitment to produce or procure fuels made with best-available sustainable production methods and practices. Such commitments might include a proposal for supply chain management of “Best Available, Most Sustainable fuels.”⁸ As “Best Available, Most Sustainable” fuel standards become more established, they may become minimum standards for AB 118 funding.⁹

Characteristic 11: The Energy Commission can further sustainability goals and promote the development of domestically and internationally recognized certification systems for sustainable alternative fuel production by recognizing projects that use a recognized sustainability reporting system.¹⁰

Sustainability Goal No. 4 – Minimize Risk of Unanticipated Environmental, Social or Economic Consequences

Characteristic 12: The Energy Commission can minimize the risk of unanticipated consequences to disadvantaged populations and the general social welfare by recognizing projects that avoid disproportionate impacts to both the public health and the environment at large. In assessing risk, the Energy Commission will consider the foreseeable expansions of proposed projects.

Characteristic 13: The Energy Commission can maximize benefits to all Californians, particularly low-income and minority populations, by recognizing projects that create jobs and economic benefits for the state.

⁸ “Best Available, Most Sustainable fuel” is conceptually similar to the Best Available Control Technology concept widely used in major environmental statutes and regulations, in which pollution control technologies with the highest levels of pollution control that are commercially feasible and viable become the benchmark standard for an industry sector.

⁹ This sustainability characteristic could be applied initially to alternative infrastructure projects that commit to ensuring that a portion of the fuel shipped, distributed or sold through the infrastructure are a certified sustainable product, or that represent the “Best Available, Most Sustainable” concept.

¹⁰ Such systems will be identified and perhaps developed in consultation with researchers at UC Davis and UC Berkeley, the ARB, and interested stakeholders. Such systems could include the Roundtable on Sustainable Biofuels: Global Principles and Criteria Version Zero, the United Kingdom’s Renewable Transport Fuel Obligation Program, the Roundtable for Sustainable Palm Oil (if compliance can be guaranteed), and the Forest Stewardship Council.

*Checkboxes That Illustrate How Sustainability Goals
Would Be Applied to AB 118 Project Proposals*

Applicants for AB 118 project funding will need to demonstrate that their proposed projects meet the statutory thresholds, and how their proposed projects meet the sustainability goals as determined by the sustainability characteristics. The thresholds are for the most part mandatory and exclusionary, and it is expected that potential applicants will use the thresholds for self-screening of eligibility. The sustainability characteristics are proposed as an evaluative point system, with relative weights yet to be determined, that would rank projects according to their total “sustainability score.”

Not all characteristics will apply equally to all types of projects. For instance, some characteristics are appropriate for biofuel production projects but inapplicable to infrastructure projects. Comments on how the thresholds and characteristics are applied are welcome.

**Checkbox of AB 118 Statutory Thresholds:
Minimum Thresholds for AB 118 Funding Eligibility**

Threshold	Key Questions	Yes	No	Uncertain
Impacts to State's Natural Resources	Does the project have the potential to impact the state's natural resources?			
	If yes, is the project subject to CEQA review?			
	If yes, does the applicant commit to reducing all significant adverse effects to state natural resources to non-significant levels and implementing all mitigation measures from responsible agencies?			
	If yes but the project is not subject to CEQA review, can the applicant 1) demonstrate compliance with all applicable laws, ordinances and regulations, and 2) submit sufficient information to allow for an independent assessment of the potential impacts to natural resources?			
	Will the project comply with applicable BMPs developed by germane natural resource or pollution control agencies?			
Consistency with State Climate Change Goals	Does the project significantly further the state's climate change goals and LCFS?			
	Does the project have a plan showing how greenhouse gas emissions are minimized at each phase of the fuel pathway?			
Air Quality	Does the project have the potential to affect air quality in California?			
	If yes, can the applicant demonstrate compliance with anti-backsliding regulations developed by ARB?			
Water Supply	Will the project require a new source of process water?			
	If yes, can the applicant demonstrate conformance to the Energy Commission's water policy for thermal power plants?			If uncertain, the application may still be eligible if it demonstrates numerous other sustainability attributes.
Water Quality	Does the project have the potential to impact water quality due to wastewater discharges from point sources?			
	If yes, can the project demonstrate compliance with applicable state and federal water quality laws?			
	If yes, can the applicant demonstrate conformance to the Energy Commission's water policy for thermal power plants?			If uncertain, the application may still be eligible if it demonstrates numerous other sustainability attributes.
	Does the project have the potential to impact water quality from nonpoint source discharges, such as from agricultural cultivation practices?			
	If yes, can the applicant demonstrate compliance with Section 13269 of the California Water Code (Irrigated Agricultural Waiver), as administered by the California State Water Resources Control Board?			

Checkbox of Sustainability Characteristics that Demonstrate Achievement of AB 118 Sustainability Goals

Goal and Characteristic	Key Questions	No or Uncertain	Relative Importance
Goal 1 – Climate Change			
Characteristic No. 1 Can the project demonstrate a substantial reduction in GHG emissions, including direct and indirect land use effects, when compared to the petroleum baseline?	What is the total life-cycle scale GHG emissions profile of the project, including direct and indirect land use, in comparison to the petroleum baseline as determined by the GREET model runs (Note 1) produced according to ARB’s methodology for the Low Carbon Fuel Standard?	If a GREET-type LCA analysis for the fuel pathway is not available, does the applicant have alternative data or a proposal to secure such data?	High
	What are the greenhouse gas emissions for each major phase of the fuel pathway (feedstock production, transport, processing, distribution and end use)?		
Goal 2 – Natural Resource Protection and Environmental Performance			
Characteristic No. 2 Use of Waste Streams for Feedstocks	Will the project use a waste stream as the primary component of its feedstock?		High
	What waste streams will be used and what portion of the final fuel product will they constitute?		
Characteristic No. 3 More efficient use of natural resources and less environmental damage than the petroleum, agricultural or natural resource extraction baselines	Can the applicant furnish data for natural resource use (Note 2) in units of resource use per unit of final product? Can the applicant furnish data on environmental damage in terms of units of waste streams for air emissions, wastewater discharge, solid waste and toxic waste per unit of final product?		High
Characteristic No. 4 Use of sustainably-produced forest biomass in feedstocks	Can the applicant provide verification that any forest biomass resources used in an alternative fuel feedstock is secured in a manner “that does not diminish the ecological value of forest stands?” (Note 3)		High

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Goal and Characteristic	Key Questions	No or Uncertain	Relative Importance
Characteristic No. 5 Best Management Practices for Purpose-Grown Energy Crops	If a purpose-grown energy crop from California is the main portion of the feedstock, does the project serve as a test or demonstration project for a BMP Plan for the crop from UC Davis or another recognized institution?	If no such BMP is available for the crop, does the applicant commit to working with UC Davis or another comparable institution to develop such a BMP?	High
Characteristic No. 6 Energy Crops Uniquely Suited to California	If all or a portion of the feedstock comes from a California-grown energy crop, can the applicant demonstrate that the project serves as a test or field trial of crops uniquely suited to California's climate, hydrology, and soil types? Such attributes could include low water use, high tolerance for a Mediterranean Climate, and high tolerance for marginal soils.		
Characteristic No. 7 Feedstocks from Historic Agricultural Areas	Does the feedstock originate from areas historically used for agricultural purposes as of January 1, 2007? (Note 4)	If not, applicant should describe why extant agricultural lands were not used.	
	Does any portion of the feedstock come from lands in the Conservation Reserve Program?		
Characteristic No. 8 Renewable Energy and Cogeneration	Does the project use renewable energy for any portion of its production, processing, or distribution?		
	If yes, describe the type of renewable energy, how much is used, and what portion of total energy use it constitutes.		
	Does the project produce electricity through cogeneration? If yes, how much?		
Characteristic No. 9 Generation of Natural Resource Co-Benefits	Will the project create measureable co-benefits in terms of natural resource restoration or amelioration of degraded lands, habitats, or waters?		
Goal 3 – Certified Sustainability Practices			
Characteristic No. 10 Best Available, Most Sustainable Fuels	Does the project include a proposal to procure fuel from sources considered as Best Available, Most Sustainable? (Note 5)		
	If the project is an infrastructure project, what proportion of the fuel throughput comes from a Best Available, Most Sustainable source, or from a recognized sustainability certified source?	If no, does the applicant have a proposal for how to incorporate sustainably-produced fuels into the project?	Med

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Goal and Characteristic	Key Questions	No or Uncertain	Relative Importance
Characteristic No. 11 Certified Sustainable Feedstock	Does the project include a fuel feedstock from a recognized, sustainability certified source?	If no, can the applicant provide data demonstrating that the feedstock production practices are substantially similar to recognized, certified sustainable sources?	High
	If yes, what is the certification program?		
	If yes, what portion of the project's feedstock comes from the certified source?		
	If the feedstock is from a foreign producer, is it certified as a sustainably produced product under a recognized certification program?		
Goal 4 – Minimize Risk of Unanticipated Consequences			
Characteristic No. 12 Avoid Impacts and Create Economic Benefits for Disadvantaged Populations	If the project has the potential to affect low-income and minority populations, can it demonstrate that it avoids impacts to disadvantaged populations and creates localized economic benefits?		
Characteristic No. 13 Create jobs and economic benefits for California	Will the project create a net number of new jobs and net economic benefits for California?	If so, describe the number and types of jobs and an estimate of the economic benefits.	

Notes:

- 1) GREET denotes the Greenhouse gases, Regulated Emissions, and Energy Use in Transportation model that was developed by Dr. Michael Wang of the US Department of Energy's Argonne National Laboratory. <http://www.transportation.anl.gov/software/GREET/index.html>
- 2) State 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.
- 3) "Sustainably-produced forest biomass" and production "that does not diminish the ecological value of forest stands" are provided as placeholder terms that will require further technical definition. The Energy Commission is interested in proposals for methods that can confirm these goals and standards for assessing them.
- 4) AB 118 (Núñez, Chapter 750, Statutes of 2007) was chaptered in 2007.
- 5) "Best Available, Most Sustainable" sources denote alternative fuel producers exemplifying the highest sustainability standards, as recognized by sustainability certification programs or the Energy Commission along with partner agencies and institutions.