

BIOFUELS DRAFT SOLICITATION CONCEPTS

Alternative and Renewable Fuel and Vehicle Technology Program

Subject Area – Pilot-Scale and Commercial-Scale Advanced Biofuels Production Facilities

No proposals are being accepted at this time. This is a draft compilation of solicitation concepts. Do not design or submit proposals according to this DRAFT. The actual solicitation is subject to change.

This DRAFT will be discussed at the March 30, 2016 Workshop and public comments will be taken. Written comments are due by April 6, 2016 to the Energy Commission Dockets Unit (See Notice of Staff Workshop for additional details on how to comment).



<http://www.energy.ca.gov/contracts/index.html>

State of California
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INTRODUCTION

This “Draft Solicitation Concepts” document details the concepts under consideration for the next pilot-scale and commercial-scale advanced biofuels production facilities solicitation issued by the California Energy Commission’s Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP).

The concepts for the next solicitation have been informed by experience from six previous biofuels solicitations, performance of awarded projects, and stakeholder input from the Energy Commission’s Technical Merit Review. Staff has identified additional scoring criteria metrics that will better assess potential project success. These improvements will assist the biofuels investment program in achieving the State’s objectives for low carbon transportation fuels.

Biofuels Team analyses have identified the following issues and emerging trends in the biofuel production space:

1. Potential GHG reductions over the project terms from recent ARFVTP biofuel awardees is 1,522,160 metric tons, at an average cost of \$37.40 / Metric Ton, which is below the range of recent LCFS market prices.¹
2. Trends in past solicitations indicate that there is a large untapped potential for in-state producers to greatly expand production and help meet State policy goals.
3. Market and regulatory uncertainties have impaired the ability of biofuels firms to attract investment capital, inhibiting industry expansion and leading some biofuels projects to lose required match funding.² Future growth potential is much higher than recent rates, now that federal RFS2 regulations have finally been issued.
4. The importance of in-state biofuel production results from several factors unique to recipients of ARFVTP awards:
 - a. Biofuels production is the fastest and most cost-effective pathway for immediate GHG reductions to achieve policy goals.
 - b. In-state production results in significant economic and environmental benefit to California, from diversion of GHG-emitting waste to low-carbon biofuels.

Policy uncertainty of the LCFS, RFS2, and Federal Blender’s Tax Credit, in the recent past, has suppressed the industry’s expansion, leading to pent up demand for capital. Aggressive implementation of LCFS and RFS2 will support higher carbon market credit prices, making biofuel production more attractive to investors, despite currently low petroleum prices. Segments of the industry are now ready for larger commercial deployment, with demand for investment that exceeds

¹ Weighted average cost per MT from last two commercial solicitations; staff analysis; & recent LCFS market prices (recent release of RFS2 standards increased RFS2 and State LCFS credit prices, due to decreased uncertainty and increased demand for credits; recent LCFS prices increased to \$86/MT).

² Biofuel Merit Review and survey comments on barriers to production expansion; 3103 White Paper.

ARFVTP grant capabilities, while still lacking sufficient private capital to meet these needs. Additionally, greater leverage is needed from public funds, as well as supplemental funding from extramural sources, to meet this increased demand.

The goal of the next solicitation is to provide grant funds needed to meet the biofuels industry's demand for capital development, while also accommodating diverse stakeholder needs and funding choices. This solicitation proposes a funding structure that attempts to increase leverage of biofuel awards by offering higher award amounts to applicants that achieve greater cost effectiveness of awards.

This approach will support the biofuels industry, in partnership with ARFVTP, in moving into alternative funding mechanisms in the future, to provide variety in funding opportunities for future projects. With coordinated efforts with other state and federal funding programs, the ARFVTP could enable growth of the biofuels industry to achieve 2020 in-state production goals, up to 40% of in-state production (BioEnergy Action Plan).

No proposals for biofuels production facilities are being accepted at this time. Readers of this document are cautioned to NOT design or submit proposals according to this Draft Solicitation Concepts document as the final solicitation may substantially change. Comments on this Draft Solicitation Concepts document are due by April 6, 2016 to the Energy Commission Dockets Unit. Please refer to the Notice of Staff Workshop for additional details on how to submit comments. Number comments consistent with this Draft Solicitation Concepts document to facilitate effective evaluation.

The Draft Solicitation Concepts follow:

1. Available Funding

Approximately \$17 million is available for the agreements resulting from this solicitation. The Energy Commission, at its sole discretion, reserves the right to increase or decrease the amount of funds available under this solicitation.

The funds will be divided into two distinct funding categories based on the addition to annual production capacity resulting from the proposed project as follows:

Annual Production Capacity (diesel gallon equivalent)	Available Funding
100,000 to 1.0 million DGE	\$5 million
Above 1.0 million DGE	\$12 million

2. Maximum Award

All applicants are eligible for up to \$3 million. Projects resulting from increases in annual production capacity exceeding 1.0 million gallons per year (MGPY) expressed in diesel gallon equivalents (DGE) are eligible for additional funding, as follows:

Proposed Annual Fuel Production Capacity (MGPY DGE)	Capacity Multiplier (\$/DGE)
20.0+	\$0.15
≥17.0	\$0.14
≥14.0	\$0.13
≥11.0	\$0.12
≥8.0	\$0.11
>1.0	\$0.10
0.1 – 1.0	None

The following is the calculation for the maximum allowable funding for each application:

$$\text{Maximum grant award} = \$3 \text{ million} + (\text{Proposed Increase to Annual Fuel Production Capacity} * \text{Capacity Multiplier})$$

3. Eligible Applicants

This solicitation is open to businesses, public agencies, non-profit organizations, vehicle and technology entities, public-private partnerships, and academic institutions.

To be eligible, Applicants must have a business presence in California.

4. Eligible Projects

- Funding will be available for:
 - New, low carbon biofuel production facilities; and
 - Projects at existing biofuel production facilities that expand or modify facilities to increase production capacity.
- All projects must produce at least 100,000 diesel gallon equivalents (DGE) per year of biofuel.
- All projects must comply with California Health & Safety Code, Section 44272 *et seq.*
- For purposes of this solicitation, eligible biofuels include the following:
 - **Diesel substitutes.** These include renewable diesel, biodiesel, or other suitable substitutes, including Dimethyl Ether (DME). These products can be used in pure form or blended.
 - **Gasoline substitutes.** These include ethanol, biobutanol, renewable gasoline, or other suitable substitutes. These products can be used in pure form or blended.
 - **Biomethane.** Renewable natural gas produced from organic material.
- For purposes of this solicitation, eligible feedstocks include, but are not limited to, pre-landfilled or landfilled waste-based biomass, alternative purpose-grown crops, agricultural residues, woody biomass and forest residues, animal manures³, food waste, and the organic portion of municipal solid waste (MSW).⁴

Biomass is defined as any organic material not derived from fossil fuels or inorganic greenhouse gases, including agricultural crops; agricultural waste and residues; rangeland maintenance residues; biosolids; sludge derived from organic matter; landscape and right-of-way tree trimmings; wood waste from timbering operations; mill residues that result from milling lumber; waste pallets; crates, dunnage, manufacturing, and construction wood wastes; and wood.

Agricultural wastes and residues include, but are not limited to, animal wastes, remains and tallow; food wastes; recycled cooking oils; and pure vegetable oils.

Landscape or right-of-way tree trimmings include all solid waste materials that result from tree or vegetation trimming or removal to establish or maintain a right-of-way on public or private land for the following purposes:

³ California Regional Water Quality Control Board, Central Valley Region, "Dairy Manure Digester and Co-Digester Facilities: Final Program Environmental Impact Report" November 2010

http://www.waterboards.ca.gov/centralvalley/board_decisions/tentative_orders/1012/dairy_digester_eir/dairy_digstr_fpeir.pdf

⁴ California Department of Resources Recycling and Recovery (CalRecycle), "Statewide Anaerobic Digester Facilities for the Treatment of Municipal Organic Solid Waste: Final Program Environmental Impact Report" June 2011

<http://www.calrecycle.ca.gov/swfacilities/Compostables/AnaerobicDig/PropFnlPEIR.pdf>

- For the provision of public utilities, including, but not limited to, natural gas, water, electricity, and telecommunications.
- For fuel hazard reduction resulting in fire protection and prevention.
- For the public's recreational use.⁵

Corn grain is NOT an eligible feedstock; however, corn oil and corn stover are eligible. If using municipal solid waste (MSW) as a feedstock, only the biogenic fraction of the waste stream is eligible. Costs of biofuel production from ineligible feedstocks are not eligible as reimbursed or match share costs and will not be considered in the scoring and evaluation of a proposed project.

- All eligible biofuel production facilities and existing biorefineries must be located in California. Project construction and operations work must also occur in California.
- A biofuels production facility that previously received an Energy Commission award is eligible for an additional award under this solicitation so long as the newly proposed project builds upon, and is in addition to, the project previously funded by the Energy Commission. In addition, see Applicant Performance.
- Eligible projects must mitigate the environmental effects of on-road motor vehicle air emissions.

5. Eligible Project Costs

Costs incurred for the following activities are eligible for Energy Commission reimbursement or as the Applicant's match share:

- Facility pre-engineering and design.
- Engineering plans and specifications.
- Building and facility construction, modifications, and/or operations.
- Asset and/or equipment acquisition.
- Feedstock development activities.
- Verification of advanced biofuel attributes and characteristics, and data collection and modeling.
- Enhancement of commercial biofuel production technology.
- Facility process efficiency improvements leading to reductions in GHG emissions.
- Process improvements to accommodate lower carbon intensity feedstock and fuel production.

The Energy Commission will not reimburse for land acquisition, but this may be counted towards match share.

⁵ California Energy Commission, "Commission Guidebook, Overall Program Guidebook, Second Edition." January 2008. <http://www.energy.ca.gov/2007publications/CEC-300-2007-003/CEC-300-2007-003-ED2-CMF.PDF>

6. Match Funding

Applications must include a minimum 50 percent match share of the total allowable project costs. Match share funding may be in the form of cash or in-kind contributions; however, cash contributions must be equal to at least 50% of Energy Commission funding (match share expenditures in which a financial transaction has occurred). Examples of match which are *not* cash contributions include, but are not limited to, stock options and other investments, donated or loaned labor hours, equipment, vehicles, facilities, land, inventory, other property, and fixed assets.

7. Application Performance

An Applicant who has an existing biofuel production facility grant agreement from previous Energy Commission solicitations must demonstrate that they have made substantive and verifiable progress in completing the project prior to being approved to begin work under any new agreements resulting from this solicitation. Significant delays or poor performance in a previously awarded project can reduce an applicant's score in the Project Readiness criteria.

The Energy Commission reserves the right to cancel an agreement awarded under this solicitation should substantive and verifiable progress not be demonstrated for awards approved under past solicitations in which case the Energy Commission will fund the next eligible highest-scoring proposal.

8. Project Execution

An Applicant to this solicitation that receives an award to develop an advanced biofuel production facility shall commit to executing its grant agreement with the Energy Commission within 60 days after approval of the award at an Energy Commission business meeting. Additionally, projects recommended for funding must execute all subcontracts (e.g., feedstock, technology, off-take agreements, match funds) within 90 days of the executed agreement with the Energy Commission. The Energy Commission reserves the right to cancel proposed awards that do not meet these agreement execution and subcontract execution deadlines.

The project must have an end date no later than March 31, 2021.

9. California Environmental Quality Act (CEQA) Compliance Information

Projects recommended for funding must complete the CEQA process within 6 months of the release date of the NOPA. The Energy Commission reserves the right to cancel proposed awards that do not meet this CEQA compliance deadline.

10. Letters of Support/Commitment

Applications should include letter(s) of support/commitment which are limited to 2 pages maximum each.

- Key Project Partners (Mandatory)
- Third-party Match Share Contributors (Mandatory)
- Letters of Support (Optional)
- Feedstock Commitments (Optional)
- Purchase Commitments (Optional)

11. Two-Stage Scoring Process

This solicitation will follow a two-phase process.

1. **Pre-Proposal Abstract Technical Scoring:** This phase consists of a Pre-Proposal Abstract form and a project abstract, limited to 10 pages, that will be scored using Pre-Proposal Abstract scoring criteria of this solicitation (discussed below).
2. **Full Proposal Screening and Scoring:** Passing proposals (abstracts receiving a 70% or higher) will be eligible to submit a full proposal. ***Full proposals must be consistent with previously submitted and passing pre-proposal abstract.***

12. Evaluation Process, Scoring Criteria and Points

The Energy Commission will evaluate and recommend for funding proposals utilizing the following guidelines:

- A. Pre-proposal abstracts will be screened and scored in accordance with the Screening Criteria and Scoring Criteria.
- B. Upon completion of pre-proposal abstract scoring, a Pre-Proposal Abstract Results notification will be emailed to all parties that submitted an application. Each applicant will also receive a Pre-Proposal Abstract Scoring Criteria Feedback Memo with the evaluation committee’s scores, notes, and feedback.
- C. Passing proposals (abstracts receiving a 70% or higher) will be eligible to submit a full proposal.
- D. Full proposals will be scored in accordance with the Scoring Criteria.
- E. To be eligible for funding, projects must achieve the minimum passing score of 70%.
- F. Proposals will be ranked according to score.
- G. Ties, if any, will be broken in the following order:
 - a. Project Budget and Cost Effectiveness
 - b. Random Drawing
- H. Proposals will be recommended for funding in ranked order until funds in this solicitation have been exhausted.

Summary of the Pre-Proposal Scoring Criteria

Scoring Criteria	Points
Project Summary	15
Project Readiness and Implementation Schedule	15
Project Budget and Cost Effectiveness	15
Project Benefits	5
TOTAL POSSIBLE POINTS:	50

Summary of the Full Proposal Scoring Criteria

Scoring Criteria	Points
Qualifications of Project Team	25
Business Plan (Technology Plan, Marketing Plan, and Financial Plan)	90 (30 each)
Project Readiness and Implementation	45
Project Budget and Cost Effectiveness	50
Project Benefits	40
Sustainability	50
TOTAL POSSIBLE POINTS:	300

At a minimum, an application must reach the Minimum Passing Score of 210 points, or 70% of the 300 total possible points.

Qualifications of the Project Team (25 points)

Proposals will be evaluated the degree to which...

- The project team’s qualifications (including relevant expertise, experience, and skill sets) are suitable to the tasks described in the proposed Scope of Work.
- The applicant demonstrates ability to meet deadlines and milestones of current or past biofuels projects.
- The project team has verifiable biofuels production related experience.
- Project team members’, key project partners’, Engineering, Procurement, and Construction contractor’s (EPC), and technology provider’s qualifications, skills, abilities, and relevant technical and business experience as it aligns with the needs of the project and with the successful completion of the proposed project.

Business Plan (90 points)

Applications will be evaluated on the degree to which...

Technology Plan. (30 points)

- The technology is detailed, including how it works, its technical feasibility, and how it advances state-of-the-art biofuels production technology, if applicable.
- The proposed technology is adequate to achieve the goals and objectives of the proposed project.
- The proposed technologies and processes contribute to the facility’s ability to compete in the commercial California marketplace, increase the in-state production of low carbon biofuels, and advance the state-of-the-art in biofuels production technology.
- The role of technology partners are identified, documented and secured, including the legal or contractual relationship and obligations between partners.
- The proposed technology is replicable or can be scaled-up.

Marketing Plan. (30 points)

- Credible target markets, populations, market drivers, and anticipated market growth are identified and documented.

- Market barriers and existing or potential competition are identified and adequately addressed to ensure project success.
- The role of strategic marketing partners, customers, and other partners in ensuring project success, including fuel and co-product off-take agreements, contribute to the success and sustainability of the proposed project.

Financial Plan. (30 points)

- The proposed project is economically viable.
- The Applicant's firm and key project partners have the financial ability to successfully implement the proposed project and continue operations beyond the project term.
- The financial plan identifies project risks and effective strategies to manage and mitigate those risks.
- Feedstock supply is cost-effective, appropriate and secured to support long-term, ongoing and uninterrupted biofuel production for commercial-scale projects.
- The long-term commercialization pathway following project completion is identified, reasonable, and viable.
- Co-products or other revenue streams are identified and contribute to the production of cost-competitive biofuels.

NOTE ON CONFIDENTIALITY: Sections of the Business Plan specified as follows may be provided as confidential information if submitted as a separated, clearly-labeled volume of the application.

Specifically, corporate financial records, technology trade secrets, and price components of feedstock purchase agreements and off-take agreements provided to meet the requirements of this section may be submitted to the Energy Commission as confidential information as part of a clearly-labeled, separated volume of the application.

Corporate financial records include: balance sheets and cashflow statements, 5 year proforma statements, and break-even pricing calculations.

A technology trade secret is defined as a formula, practice, process, design, instrument, pattern, commercial method, or compilation of information which is not generally known or reasonably ascertainable by others, and by which a business can obtain an economic advantage over competitors or customers.

Price components, such as the price received for goods sold of feedstock purchase agreements and off-take agreements, will be kept confidential. Applicants should submit two copies of such agreements: one with price information redacted that is included in the non-confidential portion of the application, and another with price information shown that is included in the separate section of confidential documents.

The specified technology, marketing, and financial information requested from Applicants will be kept confidential by the Energy Commission, pursuant to California Government Code sections 6254(k) and 6254.15 unless the Energy Commission is ordered to release it by a court

or other entity with jurisdiction over the issue or the information otherwise becomes public.

The specified technology, marketing, and financial information described above will be kept confidential from receipt to seven (7) years following the posting of the NOPA, after which time the records will become public.

Information provided by Applicants, other than the specified technology, marketing, and financial information listed above is only confidential until the release of the NOPA. The Energy Commission does not warrant that information, other than the specific information described above, will be kept confidential following the posting of the NOPA. Applicants should not submit materials that are marked or otherwise delineated as confidential, except for the technical, financial and marketing information specified herein. Any such materials will be returned to the Applicant and not considered.

Project Readiness and Implementation (45 points)

Applications will be evaluated on the degree to which...

- Required permitting for the proposed project/facility has been completed and/or the permitting schedule ensures successful project completion within the timeframes specified in this solicitation.
- The proposed project can expedite biofuel production.
- The application demonstrates and documents site and equipment control.
- The project has achieved compliance under the California Environmental Quality Act (CEQA) within the required time.
- Planned community outreach is appropriate and comprehensive and contributes to the overall success of the proposed project.
- The tasks in the Scope of Work contribute to the successful and timely completion of the proposed project.

Project Budget and Cost Effectiveness (50 points)

Applications will be evaluated on the degree to which...

- The proposed project's budget minimizes Energy Commission funding per diesel gallon equivalent produced annually.
- The proposed project results in a higher benefit-cost score defined as the amount of GHG emissions reduced on an annual basis per dollar of Energy Commission funding.
- The Applicant demonstrates the need for state funding for the proposed project.
- The proposed match share is documented and committed to the proposed project.
- The budget is reasonable and the budget forms are filled out completely and accurately.

Project Benefits (40 points)

Applications will be evaluated on the degree to which...

- The proposed project will expand business opportunities for California-based businesses.
- The proposed project results in high-quality jobs in terms of compensation and duration and related project payroll.
- The proposed project increases state and local tax revenues.
- The project benefits accrue to California disadvantaged communities.

Sustainability (50 points)

Applications will be evaluated on the degree to which...

- The proposed project preserves and/or enhances natural resources, including information related to water use efficiency or reclamation; use of sustainable or underutilized feedstocks that come from forest clearing or waste resources; renewable energy; or abandoned/reclaimed land used for energy crop production.
- The proposed project reduces GHG emissions on a lifecycle basis, relative to the relevant fossil fuel baseline as measured in gCO₂e/MJ. Report carbon intensity of the biofuel, percentage reduction from baseline, total carbon emissions displaced on an annual and project term basis, and substantiate calculations.
- Degree to which the eligible biofuels produced by the proposed project displaces petroleum transportation fuels on an annual and project term basis.

13. Proposed Schedule

ACTIVITY	ACTION DATE
Biofuels Vision and Solicitation Concepts Workshop	March 30, 2016
Deadline for Comments on Draft Solicitation Concepts	April 6, 2016
Solicitation Release	April 19, 2016
Pre-Application Workshop*	May 3, 2016
Deadline for Written Questions*	May 3, 2016
Anticipated Distribution of Questions/Answers and Addenda (if any) to solicitation	May 10, 2016
Pre-Proposal Abstract Due by 3:00p.m.*	May 31, 2016
Anticipated Pre-Proposal Abstract Results	July 12, 2016
Deadline to Submit Full Proposals by 3:00 p.m.*	August 23, 2016
Anticipated Notice of Proposed Award Posting Date	October 2016
6 months for CEQA Compliance	March 2016
Anticipated Energy Commission Business Meeting Date	April 2017
Anticipated Agreement Start Date	April 2017