DOCKETED	
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Pre-Solicitation Workshop

Zero- and Near-Zero-Carbon Fuel Production and Supply Funding Concepts

Fuels and Transportation Division
July 14, 2022 | 10:00 am

Housekeeping

- Workshop is being recorded
- Workshop Event Webpage: https://www.energy.ca.gov/event/workshop/2022-07/staff-workshop-discuss-zero-and-near-zero-carbon-fuel-production-and-supply
- Virtual Participation through Zoom
  - Raise Hand or Q&A feature
  - Telephone participants dial *9 to raise your hand
- Submit Written Comments to Docket # 22-TRAN-01 Comment Page: https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=22-TRAN-01
  Deadline: Thursday, August 4, 2022, by 5:00 PM

Commitment to Diversity

The CEC adopted a resolution strengthening its commitment to diversity in our funding programs. The CEC continues to encourage disadvantaged and underrepresented businesses and communities to engage in and benefit from our many programs.

To meet this commitment, CEC staff conducts outreach efforts and activities to:

- Engage with disadvantaged and underrepresented groups throughout the state
- Notify potential new applicants about the CEC's funding opportunities
- Assistant applicants in understanding how to apply for funding from the CEC's programs
- Survey participants to measure progress in diversity outreach efforts

Workshop Purpose

- The CEC is seeking feedback for funding concepts to allocate funding for zero- and near-zero carbon fuel production and supply projects.

- Two potential categories:
  - Renewable hydrogen production projects
  - Other zero- and near-zero carbon fuel production projects

Workshop Agenda

10:05 a.m.	Welcome and Introductions
10:10 a.m.	Opening Remarks from Lead Commissioner
10:15 a.m.	Background and Overview of Available Funding
10:20 a.m.	Trends and Challenges related to Fuel Production
10:35 a.m.	Potential Funding Concepts
11:10 a.m.	Public Comments
11:50 a.m.	Next Steps
11:55 a.m.	Adjourn

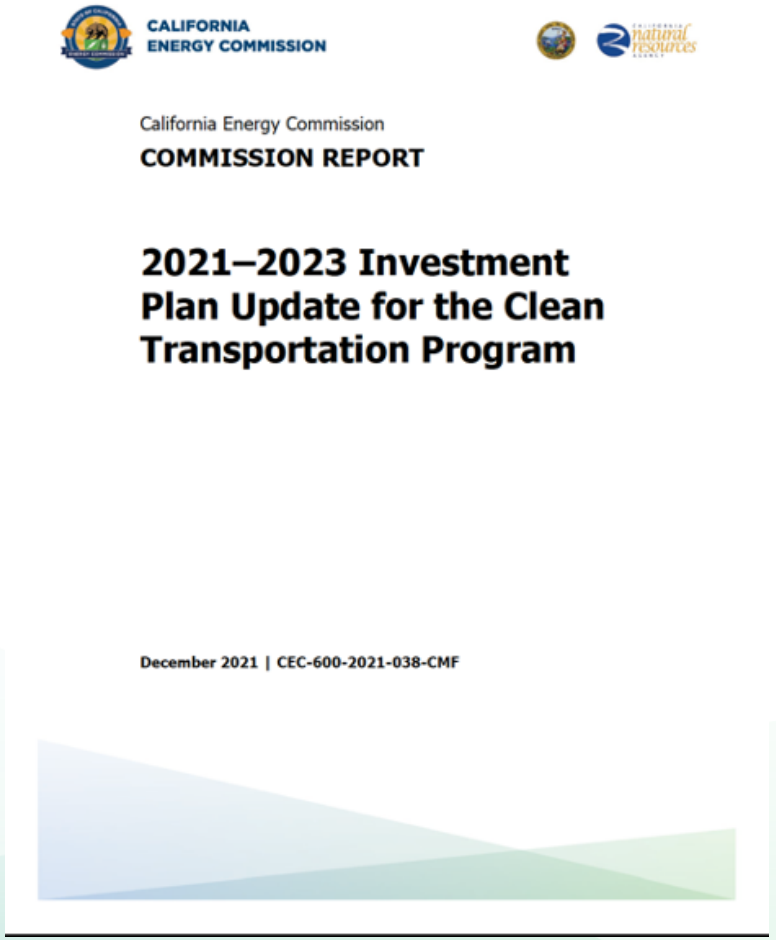
Patty Monahan

Energy Commission Lead Transportation Commissioner

Background and Available Funding

Clean Transportation Program Background

- Established in 2007 by Assembly Bill 118 (2007)
- Extended to January 1, 2024, by Assembly Bill 8 (2013)
- Provides approximately $95 million in base program funding per year through 2023
- Investment Plan to determine funding allocations across various categories
- Past awards for Alternative or Low Carbon Fuel Production and Supply: $224.4 million for 74 projects (as of June 2022)



Low Carbon Fuel Production and Supply

Funding opportunities to produce sustainable, alternative, and renewable low-carbon fuels in California to:

- Reduce dependence on petroleum
- Increase alternative and renewable fuels
- Help attain state climate policies and goals
- Stimulate in-state economic development

Most recent awards:

- Three RNG production facilities and two renewable diesel blending facilities under GFO-20-608 ($9 million)
- Three renewable hydrogen production projects under GFO-20-609 ($9 million)

Summary of Past Awards as of June 2022

Fuel Type	Qualifying Proposals Submitted	Funds Requested by Qualifying Proposals (in Millions)	Awards Made	Funds Awarded (in Millions)
Gasoline Substitutes	28	$71.8	14	$36.8
Diesel Substitutes	62	$187.1	26	$75.1
Biomethane	71	$221.4	29	$95.6
Renewable Hydrogen	13	$43.7	5	$16.9
Total	**174**	**$524**	**74**	**$224.4**

Types of Past Solicitations

- Four types of low-carbon fuel production solicitations:
  - Early-stage or lab scale
  - Demonstration or Pilot scale
  - Community scale
  - Commercial scale
- Renewable hydrogen has had separate solicitations since 2017

Available and Expected Funding

Fiscal Year	Funding Allocation	Availability
2021-22	$7 million	Available now
2022-23	$10 million	Pending Investment Plan Approval [est. Late 2022]
2023-24	$5 million	Pending Budget Appropriations [July 2023]
Total	$22 million	

Source: Investment Plan Allocations for Zero- and Near Zero-Carbon Fuel Production and Supply

Trends and Challenges

- Major progress in renewable diesel, biomethane, and renewable hydrogen in recent years.
- Dairy cluster projects have exhibited the highest greenhouse gas (GHG) emission reductions than other types of projects.
- Forest waste projects have had a difficult time competing due to high costs of feedstock processing and conversion of woody biomass.
- Although there is an increased awareness and sensitivity about state wildfire management and prevention, forest waste projects have a hard time competing for funding.

Trends and Challenges, cont.

Specific to renewable hydrogen:

- Increasing demand, especially with growth in medium- and heavy-duty applications and hard-to-electrify industrial uses
- Electrolyzers becoming more commercialized and achieving cost reduction
- Possibility of serving multiple purposes, including energy storage of curtailed renewable electricity, peak/emergency power
- Challenges:
  - Finding suitable locations and permitting
  - Securing renewable feedstock
  - Delivering fuel to end uses
  - High costs

Potential Funding Concepts

Zero- and Near Zero-Carbon Fuel Production and Supply

Concept 1: Commercial-scale fuel production with a forest waste emphasis

- Maximize GHG emission reductions
- Utilize forest waste as feedstock
- Supports the state's wildfire goals
- Similar to previous solicitations (e.g., GFO-20-608, GFO-19-601, and GFO-18-601)
- Two options for consideration:
  - Forest waste as a separate category in a solicitation
  - Release a solicitation that focuses fully on forest waste

Why focus on forest waste?

- Wildfire prevention
  - CalFire found similar roadblocks in their Woody Biomass Utilization Program funded by the Greenhouse Gas Reduction Fund (GGRF, a.k.a. AB 32 cap-and-trade funds).

- Unlock waste-based woody biomass as one of the largest sustainable feedstocks for fuels and energy

Pros & Cons of Commercial-Scale Production Solicitation

- Pros:
  - Typically produces high volumes of low carbon fuels
  - Reduces GHG emissions
  - More jobs created and greater economic impact, especially in disadvantaged communities

- Cons:
  - Smaller producers and emerging technologies are less competitive in such solicitations

Questions and Discussion Break #1

- Questions for CEC
- Questions for stakeholders:
  - How can we improve on this concept?
  - How can our limited funding make a greater impact?
  - Do you have any additional ideas on how to utilize our funding?

Zoom Participants

- Use the "raise hand" or Q&A feature to make verbal comments or ask questions

Telephone Participants:

- Dial *9 to raise your hand
- Dial *6 to mute/unmute your phone line

Concept 2: Renewable Hydrogen Production

- New production to serve transportation market
- Two solicitation options for consideration:
  - Release a new, stand-alone renewable hydrogen production solicitation like GFO-17-602 and GFO-20-609
  - Add an optional on-site renewable hydrogen production component to a light-duty/multi-duty hydrogen refueling infrastructure solicitation currently in development
    - Fuel production and related components are NOT funded by hydrogen infrastructure funds

Questions and Discussion Break #2

- Questions for CEC
- Questions for stakeholders:
  - Which option is preferred? Why?
  - Technology neutral or preference for electrolysis? Why?
  - What is appropriate minimum daily production capacity and funding level?
    - For stand-alone production facility
    - For onsite production at a refueling station

Zoom Participants

- Use the "raise hand" or Q&A feature to make verbal comments or ask questions

Telephone Participants:

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Public Comment/Discussion Period

Zoom Participants

- Use the "raise hand" feature to make verbal comments

Telephone Participants:

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Written Comments

https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=22-TRAN-01

Deadline for comments: Thursday, August 4, 2022, by 5:00 p.m.

Submit Comments to Docket 22-TRAN-01

Electronic Commenting System

Visit the comment page for Docket 22-TRAN-01 at:
https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=22-TRAN-01

Comment by E-mail

E-mail: docket@energy.ca.gov

Subject Line: "22-TRAN-01 Funding concepts"

All comments due by 5:00 pm on Thursday, August 4, 2022

Next Steps

Activity	Date
Workshop comment period ends	**August 4, 2022, 5:00 p.m.**
Concept 1 (Commercial-Scale Production) Solicitation Release	January 2023*
Concept 2 (RH2) Solicitation Release - If part of infrastructure solicitation - If stand-alone solicitation	 Q4 2022* Q2 2023*

* Anticipated dates. Subject to change.

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- Most relevant topics:
  - Commission General Topics – "RFPs, Solicitations, Contracts, Funding Announcements"
  - Transportation Topics – "Clean Transportation Program" and "Low Carbon Fuels Production Program"

Thank you for participating