

# GFO-20-604 Pre-Application Workshop

Hydrogen Fuel Cell Demonstrations in Rail and Marine Applications at Ports (H2RAM)

Energy Research and Development Division



Peter Chen, Mei Chang, and Rey Gonzalez

7/31/2020

California Energy Commission



# Agenda

Time	Item
10:30 am	Welcome and Introduction <ul style="list-style-type: none"><li>• Housekeeping</li><li>• Diversity Survey</li><li>• EmpowerInnovation</li></ul>
10:45 am	Solicitation Background and Project Requirements <ul style="list-style-type: none"><li>• Program Background and Solicitation Purpose</li><li>• Available Funding</li><li>• Project Group Requirements</li></ul>
11:15 am	Application Requirements <ul style="list-style-type: none"><li>• Attachments</li><li>• Application Screening and Scoring</li><li>• Submission Process</li></ul>
11:40 am	Q&As
12:30 pm	Adjourn



# Housekeeping

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- Muting on Zoom
- Zoom recording
- Questions
- Updates on solicitation documents including this presentation will be posted at the Grant Funding Opportunity's webpage:  
<https://www.energy.ca.gov/solicitations/2020-07/gfo-20-604-hydrogen-fuel-cell-demonstrations-rail-and-marine-applications>



# Commitment to Diversity

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CEC adopted a resolution strengthening its commitment to diversity in our funding programs. 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.
- Assist applicants in understanding how to apply for funding from the CEC's programs.
- Survey participants to measure progress in diversity outreach efforts.



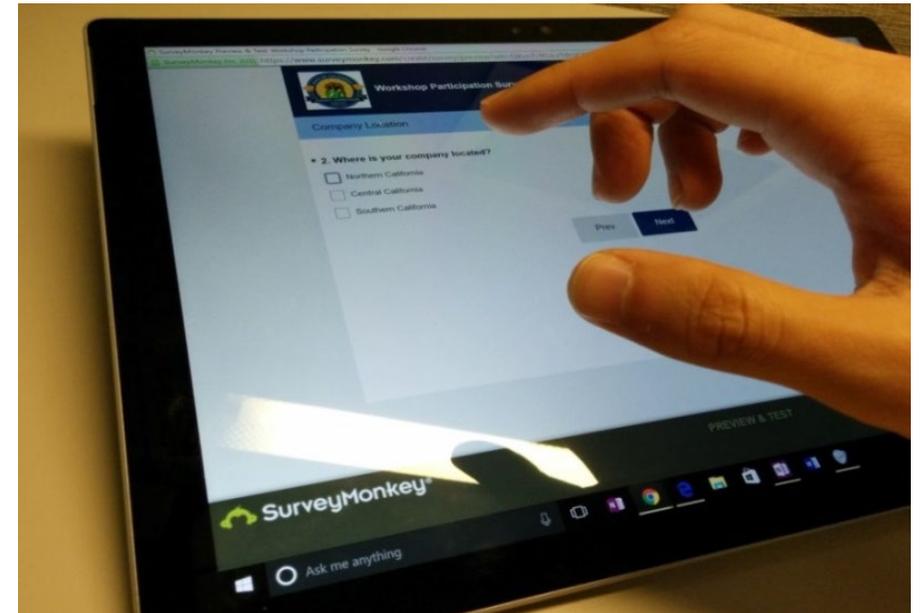
# We Want to Hear From You!

## 1 Minute Survey

The information supplied will be used for public reporting purposes to display anonymous overall attendance of diverse groups.

- Please use this link:  
<https://www.surveymonkey.com/r/CEC-7-31-2020>

Thanks!





# Connect With Us

EMPOWER INNOVATION COMMUNITY EVENTS FUNDING RESOURCES ABOUT

## CATALYZING THE CLEANTECH COMMUNITY

JOIN NOW →

CALIFORNIA ENERGY COMMISSION

California Energy Commission  
Government Organization

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Timeline About Photos Reviews More





# Find a Partner on EmpowerInnovation.net

Empower Innovation strives to accelerate your clean tech journey with easy access to funding opportunities from the CEC and other funding providers, curated resources and events, and connections to people and organizations.

## FIND A PARTNER

Announce your interest in this funding opportunity and message other interested parties to find potential partners.

## RESOURCES & TOOLS

Browse the collection of resources for clean tech innovators including Resource Libraries, Funding Sources, Tools, and Databases.

Please direct questions for the Empower Innovation platform to:  
[https://www.empowerinnovation.net/en/contact\\_us](https://www.empowerinnovation.net/en/contact_us)



# EmpowerInnovation.net





# Natural Gas Research Program Background

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- **Group 1** and **Group 3** awards will be funded by the Natural Gas Research Program, which is funded by a natural gas ratepayer surcharge established by the CPUC in 2004.
- The Program has an annual budget of \$24M.
- The Program purpose is to fund public interest research and development activities to benefit California citizens and the ratepayers of natural gas investor owned utilities (NG IOU): PG&E, SDG&E, and SoCalGas.
- Funded projects must lead to technological advancement and breakthroughs to overcome the barriers that prevent achievement of the state's statutory energy goals.



# Clean Transportation Program Background

- **Group 2** awards will be funded by the Clean Transportation Program (formerly known as the Alternative and Renewable Fuel and Vehicle Technology Program).
- The Clean Transportation Program has an annual budget of approximately \$100 million and provides financial support for projects that:
  - Reduce California’s use and dependence on petroleum transportation fuels and increase the use of alternative and renewable fuels and advanced vehicle technologies.
  - Produce sustainable alternative and renewable low-carbon fuels in California. Expand alternative fueling infrastructure and fueling stations.
  - Improve the efficiency, performance and market viability of alternative light-, medium-, and heavy-duty vehicle technologies.
  - Retrofit medium- and heavy-duty on-road and non-road vehicle fleets to alternative technologies or fuel use.
  - Expand the alternative fueling infrastructure available to existing fleets, public transit, and transportation corridors.
  - Establish workforce training programs and conduct public outreach on the benefits of alternative transportation fuels and vehicle technologies.



# Policy Drivers

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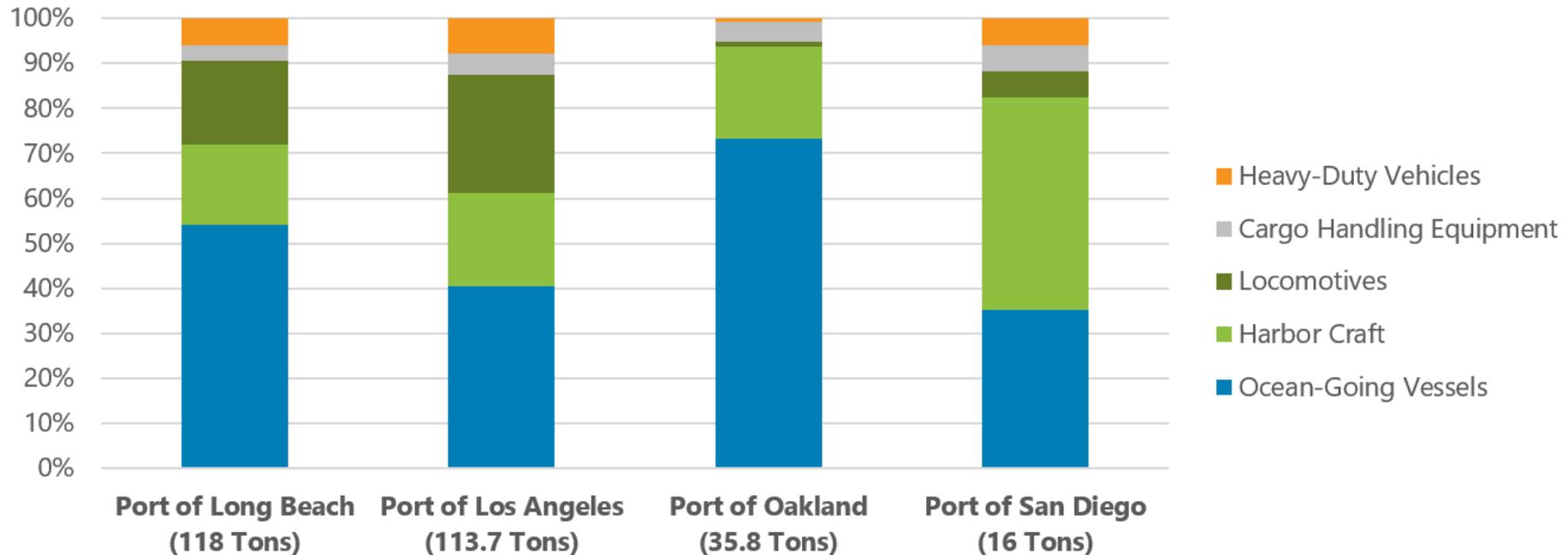
- **SB 32:** reduce GHG emissions to 40% below 1990 levels by 2030.
- **SB 100:** requires that 60% of California's electricity be powered by renewable & zero-carbon sources by 2030 and 100% by 2045.
- **Executive Order B-55-18:** established a target to achieve carbon neutrality no later than 2045, while seeking air quality improvements and supporting the health and economic resiliency of urban and rural communities.
- **Sustainable Freight Action Plan:** established targets to improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California's freight system.
- **Low Carbon Fuel Standard:** encourages use of low-carbon transportation fuels to reduce GHG emissions.
- **SB 1369:** identifies the need for the CEC to consider green electrolytic hydrogen as an eligible form of energy storage, and to consider other potential uses.



# Air Quality Impacts of Locomotives and Harbor Craft

- Locomotives and harbor craft are major emitters of diesel particulate matter that increase near-source cancer risk in communities located around ports.

**Diesel Particulate Matter Emissions at California Ports**

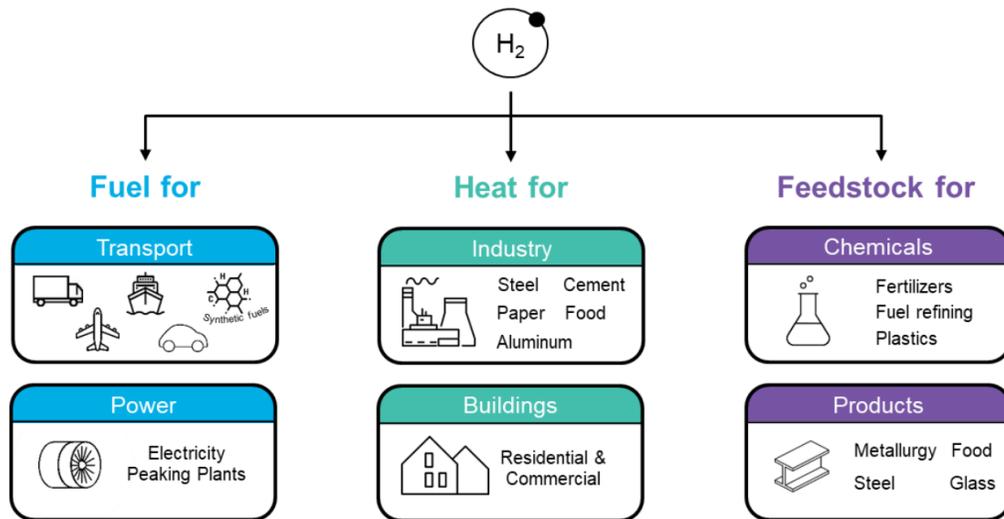


Source: Port Emissions Inventories

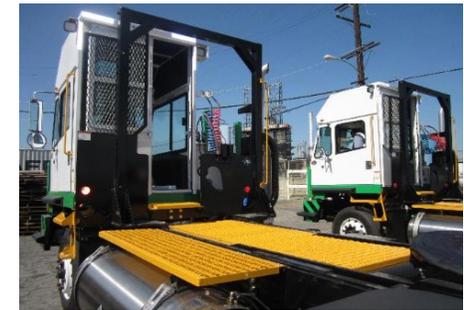


# Renewable Hydrogen

- Renewable hydrogen can be used to help decarbonize challenging sectors such as transportation and the natural gas system.
- Ports can leverage scale across multiple applications, including rail, marine vessels, drayage trucks, and cargo handling equipment to reduce the cost of hydrogen.



Source: BloombergNEF, Hydrogen Economy Outlook

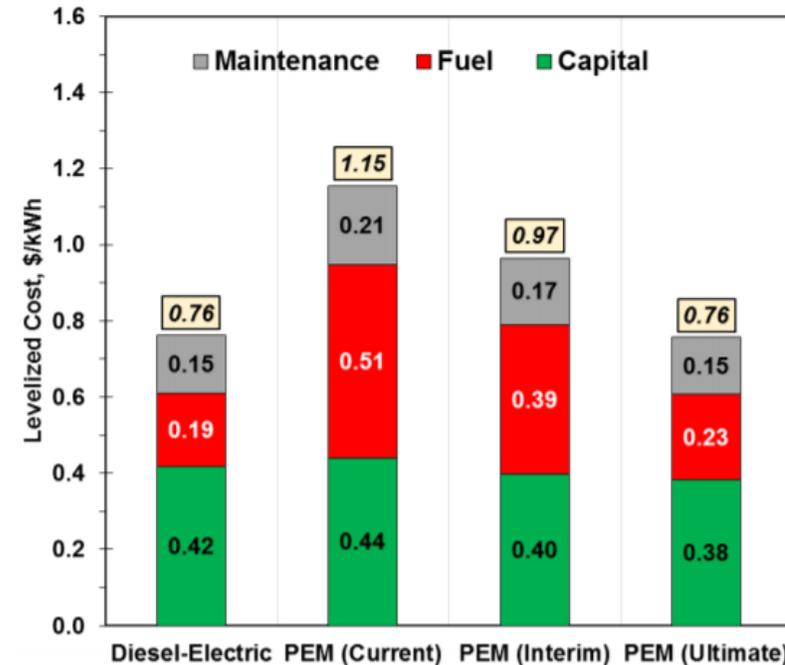
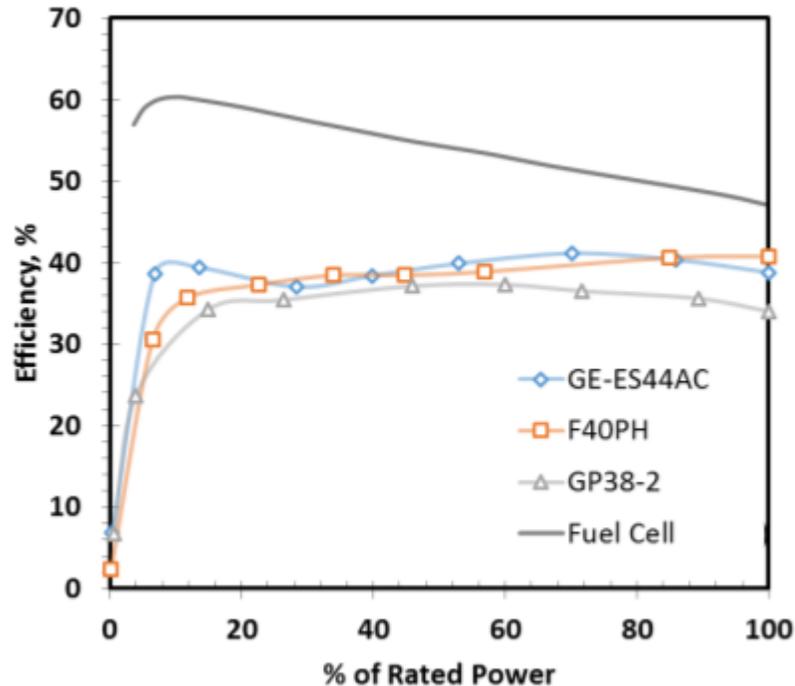


Sources: DOE, CARB, Toyota, GNA



# Total Cost of Ownership Projections – Locomotives

- For switcher locomotives, hydrogen fuel cells can have a 76% higher cycle efficiency relative to a diesel engine.
- On a TCO basis, hydrogen fuel cells are projected to be cost competitive with diesel if DOE performance and cost targets are met.

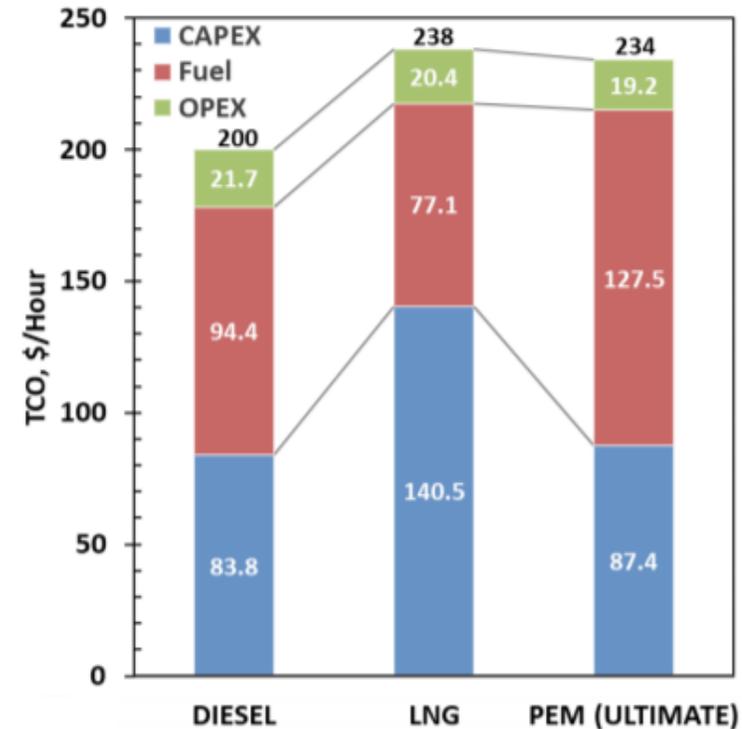
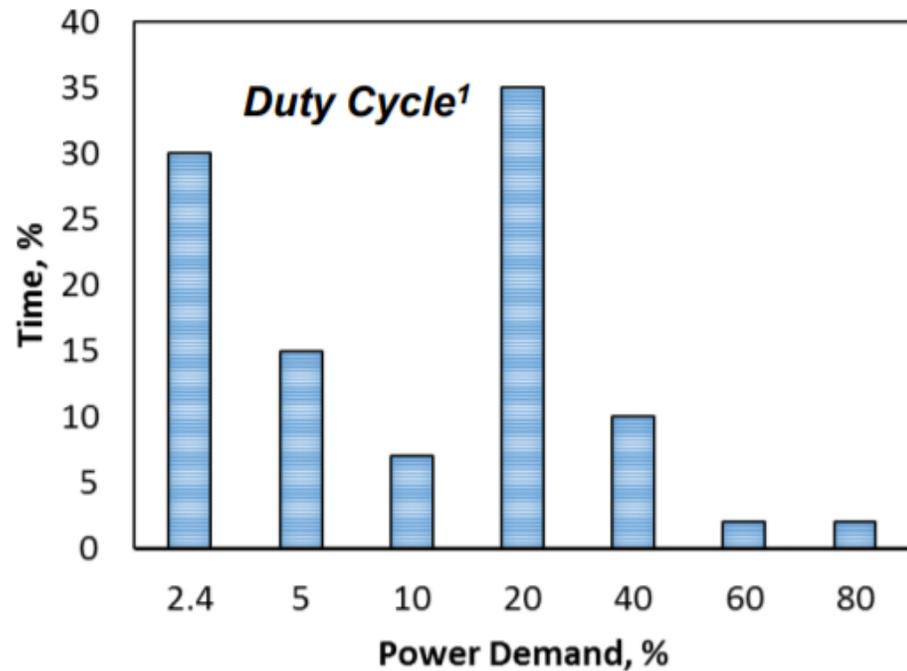


Source: Ahluwalia et al, "Rail and Maritime Metrics"



# Total Cost of Ownership Projections – Harbor Craft

- Harbor craft also benefit from higher efficiency under part load (e.g. 57% efficiency for HFC vs. 38% efficiency for diesel on a typical harbor tug duty cycle)



Source: Ahluwalia et al, "Rail and Maritime Metrics"



# California Market Potential

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- Class I railroads: 400-500 intrastate locomotives, 129 are switchers
- Class III railroads: 135 switchers
- Commuter passenger railroads: 130 locomotives
- Commercial harbor craft: 3,700 vessels

Source: California Air Resources Board



# Purpose of Solicitation

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- Fund the design, integration, and demonstration of hydrogen fuel cell systems and hydrogen fueling infrastructure for locomotive and commercial harbor craft applications.
- Enable scale up of renewable hydrogen to reduce air pollutant and greenhouse gas (GHG) emissions at California ports.
- Collect data to evaluate performance in real world operation, validate benefits, and inform future regulations and deployment plans.



# Available Funding

Project Group	Available Funding	Minimum Award Amount	Maximum Award Amount	Minimum Match Requirement (% of CEC Funds Requested)
<b>Group 1: Fuel Cell Demonstrations in Switcher Locomotives and Commercial Harbor Craft</b>	\$6,000,000 (NG R&D)	\$2,000,000	\$4,000,000	20%
<b>Group 2: Shared Hydrogen Fueling Infrastructure</b>	\$6,000,000 (Clean Transportation Program)	\$2,000,000	\$4,000,000	20%
<b>Group 3: Design and Feasibility of Fuel Cell-Powered Commercial Harbor Craft</b>	\$600,000 (NG R&D)	\$200,000	\$600,000	0%



# Match Funding

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- 20% of match funding is required for **Group 1** and **Group 2**.
- Match funding is optional for **Group 3**.
- Applications that include match funding will receive additional points during the scoring phase.
- Match funding contributors must submit match funding commitment letters that meet the requirements of Attachment 11. Failure to do so will disqualify the match funding commitment from consideration.
- Refer to Section I.F.2 in the Solicitation Manual for more details on match funding.



# Group 1: Fuel Cell Demonstrations in Switcher Locomotives and Commercial Harbor Craft

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**Funding Amount:** \$2,000,000 - \$4,000,000

## **Objectives:**

- Develop and demonstrate a hydrogen fuel cell-powered switcher locomotive or commercial harbor craft at a California port.
  - A **switcher locomotive** is defined as a self-propelled on-track vehicle used to push or pull trains, assemble and disassemble trains, sort rail cars, and deliver empty rail cars to terminals.
  - A **commercial harbor craft** is defined as any private, commercial, or government vessel that falls under the following vessel categories: ferry, pilot vessels, tugboats, barges, dredges, crew and supply, tugboats on articulated tug barges, tank barges, research vessels, work boats, charter fishing, and excursion.
- Leverage demonstration results to analyze benefits, performance metrics, and technology scalability to support broader adoption in rail and marine applications.



# Group 1: Fuel Cell Demonstrations in Switcher Locomotives and Commercial Harbor Craft

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## Requirements:

- Repower or newly build a hydrogen fuel cell-powered switcher locomotive or harbor craft.
- Demonstrate the hydrogen fuel cell-powered locomotive or harbor craft in a relevant field environment for no less than 6 months.
- Demonstrations must be located at a California port in a NG IOU service territory: PG&E, SDG&E, or SoCalGas.
- Provide hydrogen fueling support for the locomotive or harbor craft over the demonstration period.
  - Temporary mobile hydrogen refueling stations are eligible for the duration of the demonstration period.
  - Applicants seeking to propose long-term hydrogen fueling infrastructure are encouraged to apply to **Group 2**.



# Group 1: Fuel Cell Demonstrations in Switcher Locomotives and Commercial Harbor Craft

## Additional Requirements to address in Project Narrative and Scope of Work:

- Provide detailed specifications of the proposed locomotive or harbor craft.
- Describe how the locomotive or harbor craft will be refueled.
- Describe engineering advancements or innovative integration strategies to cost-competitively enhance performance and capabilities.
- Indicate what steps must be taken to obtain the necessary permits, waivers, and approvals to legally and safely conduct the demonstration.
- Describe plans for any continued operation or repurposing of the demonstration locomotive or harbor craft following project completion.
- Describe the test plan for collecting data over the demonstration period. Use data to make comparisons with conventional technologies.



# Group 2: Shared Hydrogen Fueling Infrastructure

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**Funding Amount:** \$2,000,000 - \$4,000,000

## Objectives:

- Deploy long-term hydrogen fueling infrastructure to support on-road vehicles at a California port, and also support a hydrogen fuel cell-powered locomotive or harbor craft.
- Demonstrate the ability for ports to operate as high throughput clusters for hydrogen by achieving scaled demand across multiple end-uses.
- Optional but preferred to maximize project benefits:
  - Infrastructure can also support off-road cargo handling equipment.
  - Renewable hydrogen production is included to supply the fueling station.



# Group 2: Shared Hydrogen Fueling Infrastructure

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## Requirements:

- A hydrogen fuel cell-powered locomotive or harbor craft must be available to be supported by the proposed infrastructure.
  - Proposing infrastructure to support a locomotive or harbor craft that will be demonstrated under a **Group 1** project or deployed through another funding opportunity is eligible.
- Demonstrate the economic and environmental benefits of shared hydrogen fueling infrastructure.
- Conform to SAE International J2719 for hydrogen fuel quality and pass a hydrogen purity test before the station is operational, every 6 months thereafter, and when the hydrogen lines are potentially exposed to contamination.
- Collect and report data using the NREL Data Collection Tool quarterly, starting once the hydrogen fueling station is operational.



# Group 2: Shared Hydrogen Fueling Infrastructure

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## **Additional Requirements to address in the Project Narrative and Scope of Work:**

- Describe what vehicles and equipment will be allowed access to the station, and what steps will be taken to ensure safe refueling.
- Provide specifications of the locomotive or harbor craft that will be supported by the proposed infrastructure.
- Describe how the infrastructure will be engineered to meet the refueling needs of the multiple vehicle types, including how capacity can be adjusted for future demand.
- Describe siting plans, fueling protocols, and equipment. Explain how the project will inform standardization efforts.
- Describe planning efforts to ensure fire safety, utility connection, and site control.
- Describe plans for arranging the supply chain and delivery of hydrogen with a hydrogen supplier as a primary or back-up source.



# Group 2: Shared Hydrogen Fueling Infrastructure

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## Renewable Hydrogen Requirements:

- Dispense renewable hydrogen to comply with requirements of the CARB LCFS regulation for generating Hydrogen Refueling Infrastructure (HRI) credits. This is currently based on a company-wide, weighted average:
  - Carbon intensity of 150 gCO<sub>2</sub>e/MJ or less; and
  - Renewable content of 40 percent or greater
- If renewable hydrogen production is included to supply the fueling station, identify the feedstock type, production technology, capacity, and how the fuel will be transported, stored, and dispensed.



# Group 1 and 2: Hydrogen Safety and Design Review Requirements

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**After an award, grant recipients under Group 1 and Group 2 will be required to:**

- Prepare a preliminary and final Hydrogen Safety Plan in accordance with public guidelines: *Safety Planning for Hydrogen and Fuel Cell Projects*.
- Participate in early design reviews with the Pacific Northwest National Laboratory's or Center for Hydrogen Safety's Hydrogen Safety Panel (HSP) for the demonstration locomotive or harbor craft and supporting hydrogen fueling infrastructure.
- Include the HSP in any fact-finding or investigation of any safety incident related to funded hydrogen stations.



# Group 3: Design and Feasibility of Fuel Cell-Powered Commercial Harbor Craft

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**Funding Amount:** \$200,000 - \$600,000

## **Background:**

- Individual harbor craft may require unique designs depending on their use case.
- Specific structural changes, stability considerations, and safety requirements need to be considered when replacing conventionally fueled power systems with hydrogen storage and fuel cells.



# Group 3: Design and Feasibility of Fuel Cell-Powered Commercial Harbor Craft

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## Requirements:

- Develop a baseline that is representative of the current harbor craft market in California.
- Analyze the technical feasibility of using hydrogen fuel cells to meet performance demands of the baseline.
- Develop actionable fuel cell-powered commercial harbor craft designs that would be ready for construction and deployment with additional funding.
- Evaluate design opportunities to take advantage of fuel cell modularity to improve efficiency and resiliency.
- Conduct a cost-benefit analysis to compare the life cycle effectiveness of hydrogen fuel cells at reducing emissions with other advanced emission reduction technologies.
- Identify technology and regulatory barriers and develop strategies to overcome these barriers.
- Gather technical design input and share findings with a variety of stakeholders.



# Eligible Applicants

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- This is an open solicitation for all public and private entities.
- **Group 1** and **Group 3** applicants must accept the **PIER** terms and conditions.
  - Standard, UC, and DOE T&Cs available online:  
<https://www.energy.ca.gov/funding-opportunities/funding-resources>
- **Group 2** applicants must accept the **Clean Transportation Program** terms and conditions (Attachment 15).
- Applicants are required to register with the California Secretary of State and be in good standing to enter into an agreement with the CEC:  
<http://www.sos.ca.gov>



# Application Requirements

Each Applicant must complete and including the following:

1. Application Form (.pdf)	8. CEQA Compliance Form (.docx)
2. Executive Summary (.docx)	9. References and Work Product Form (.docx, .pdf)
3a. Project Narrative (.docx) <b>(Group 1 and Group 2 only)</b>	10. Contact List (.docx)
3b. Project Narrative (.docx) <b>(Group 3 only)</b>	11. Commitment and Support Letters (.pdf)
4. Project Team (.docx, .pdf)	12. California Based Entity Form (.docx) <b>(Group 1 and Group 3 only)</b>
5. Scope of Work (.docx)	13. Applicant Declaration (.docx)
6. Project Schedule (.xlsx)	14. Localized Health Impacts Information (.docx) <b>(Group 2 only)</b>
7. Budget (.xlsx)	15. Clean Transportation Program Terms and Conditions <b>(Group 2 only)</b>



# Project Narrative (Attachment 3a and 3b)

- **Group 1** and **Group 2** applications should use **Attachment 3a**.
- **Group 3** applications should use **Attachment 3b**.
- This is your opportunity to explain the entirety of the project. The narrative should explain:
  - Why is your project necessary and important to California?
  - What is your project approach and how will each major task be implemented?
  - How will the project be completed in the term proposed?
  - How will the project outcomes benefit California citizens and natural gas ratepayers?
  - Address the requirements for your group as described in Section II.B.

Respond to the scoring criteria described in Section IV.F.



# Scope of Work (Attachment 5)

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- Tell us exactly what you are proposing to do in your project.
- Identify what will be deliver to the CEC.
- Be sure to include in the technical tasks:
  - At least one product deliverable per task.
  - Address requirements in Section II.B. under Project Focus.
- Be sure to include in the Project Schedule (Attachment 6):
  - Product deliverables that correspond with the Scope of Work.
  - Realistic dates on when product deliverables can be completed.



# Budget (Attachment 7)

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- Identify how the CEC funds and match funds will be spent to complete the project.
- Subcontractors receiving \$100,000 or more CEC funds must complete a separate budget form.
- Ensure that all rates provided are **maximum** rates that cover the entire project term.
- Travel Restrictions:
  - CEC funds should be limited to lodging and any form of transportation (e.g., airfare, rental car, public transit, parking, mileage).
  - If an applicant plans to travel to conferences, including registration fees, they must use match funds.



# Commitment and Support Letter Forms (Attachment 11)

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- Follow guidelines provided for commitment and support letters.
  - Commitment letters are required for entities or individuals that are committing **match funding, testing/demonstration sites**, including the **Prime applicant**.
  - Support letters describe a project stakeholder's interest or involvement in the project.
- All applicants must submit **at least one** support letter.
- Any project partners that will make contributions to the project (other than match and sites) must submit a commitment letter.
- Limit to two pages per letter, excluding the cover page.



# How will my Application be Evaluated?

## Application Screening

### Admin Screening Process

1. CEC staff screens applications per criteria in Section IV.E.
2. Criteria are evaluated on a pass/fail basis.
3. Applicants must pass all screening criteria or the application will be disqualified.

### Some Reasons for Disqualification

- Application is not submitted by the specified due date and time.
- Application does not include one or more support letters.
- Application contains confidential material.



# How will my Application be Evaluated?

## Application Screening

### Applicant Past Performance with CEC (Pass/Fail)

The applicant—defined as at least one of the following: the business, principal investigator, or lead individual acting on behalf of themselves—received funds from the CEC (e.g., contract, grant, or loan) and entered into an agreement(s) with the CEC and demonstrated **severe performance issues** characterized by significant negative outcomes.

### Reasons for Disqualification

- Significant deviation from agreement requirements.
- Termination with cause.
- Demonstrated poor communication, project management, and/or inability, due to circumstances within its control, from materially completing the project.
- Quality issues with deliverables including poorly written final report that prevents publishing.
- Severe unresolved negative audit findings.



# How will my Application be Evaluated?

## Application Scoring

- **Evaluation Committee applies the scoring scale to the scoring criteria.**
- **Applications must obtain a minimum passing score of 52.5 points for Criteria 1-4 in order to continue evaluation.**
- **Applications must obtain a minimum passing score of 70 points for Criteria 1-7 in order to be considered for funding.**
- **Review Section IV of the manual and ensure the application provides a clear and complete response to each scoring criteria.**

Scoring Criteria	Maximum Points
1. Technical Merit and Need	15
2. Technical Approach	25
3. Impacts and Benefits for California	20
4. Team Qualifications, Capabilities, and Resources	15
5. Budget and Cost-Effectiveness	10
6. Funds Spent in CA	10
7. Ratio of Direct Labor Costs to Loaded Labor Costs	5
<b>Total</b>	<b>100</b>
<b>Minimum Points to Pass</b>	<b>70</b>



# How will my Application be Evaluated?

## Application Scoring

- **Passing applications (score 70 or more from Criteria 1-7) will be considered for bonus points. Criteria for bonus points include:**
  - **Match Funding**
  - **Disadvantaged and/or Low-income Communities**
  - **California Based Entities**

Scoring Criteria	Maximum Points
8. California Based Entities Funding (Group 1 and Group 3 only)	5
9. Match	10
10. Disadvantaged & Low-income Communities (Group 1 and Group 2 only)	5



# Match Funding Points

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- Applicants may receive up to 10 additional preference points based on the criteria below:
  - Up to 5 points will be awarded based on the ratio of proposed Cash and In-Kind contributions using the Match Scoring Table in the Scoring Criteria.
  - The remaining 5 points may be awarded to applications that exceed the minimum match requirements up to 100 percent using the Exceeds Minimum Match Scoring table.
  - Refer to Section IV.F in the Solicitation Manual for more details on the match funding scoring criteria.



## Disadvantaged and/or Low-Income Communities (Group 1 and Group 2 only)

- Projects with **demonstration** sites located in and benefiting disadvantaged and/or low-income communities may receive additional preference points.
  - A disadvantaged community is identified by census tract and represents the 25% highest scoring tracts in CalEnviroScreen 3.0 or later versions:  
<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>
  - Low-income communities are defined as communities within census tracts with median household incomes at or below 80 percent of the statewide median income, or at or below the threshold designated as low-income by the California Department of Housing and Community Development.  
<http://www.hcd.ca.gov/grants-funding/income-limits/index.shtml>



# GFO Submission Requirements (Electronic)

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- Preferred method of delivery is the CEC Grant Solicitation System, available at: <https://gss.energy.ca.gov/>
- Electronic files must be in Microsoft Office Word (.doc, .docx) and Excel (.xls, .xlsx) formats, unless originally provided in solicitation in another format.
- Attachments requiring signatures (Application Form and Support/Commitment Letters) may be scanned and submitted in PDF format.
- First-time users must register as a new user to access system.



# GFO Submission Requirements (Hard Copy)

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- Submit Applications with all attachments in the order specified by the due date and time listed in Section III of the manual.
- Application documents should meet formatting requirements and page limits.
- Provide one hard copy and one electronic copy (USB stick) containing electronic files of the application.
- Electronic files submitted via **e-mail will not be accepted.**
- **In order to be consistent with orders and recommendations from state and local officials to encourage physical distancing to slow the spread of COVID-19, in-person delivery of applications will not be allowed.**



# Next Steps

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- **Notice of Proposed Award:** Shows total proposed funding amounts, rank order of applicants by project group, and the amount of each proposed award.
- **Agreement Development:** Proposal documents will be processed into a legal agreement.
- **Failure to Execute:** The CEC reserves the right to cancel the pending award if an agreement cannot be successfully executed with an applicant. (See Section IV.B)
- **Project Start:** Recipients may begin work on the project **only** after the agreement is fully executed (approved at an CEC business meeting and signed by the Recipient and the CEC).



# Key Dates

Activity	Date
Solicitation Release	July 16, 2020
Pre-Application Workshop	July 31, 2020 at 10:30 am
<b>Deadline for Written Questions</b>	<b>August 7, 2020 at 5:00 pm</b>
Anticipated Distribution of Questions and Answers	Week of August 24, 2020
<b>Deadline to Submit Applications</b>	<b>October 8, 2020 at 5:00 pm</b>
Anticipated Notice of Proposed Award Posting	November 19, 2020
Anticipated CEC Business Meeting	March 10, 2021
Anticipated Agreement Start Date	March 31, 2021
Anticipated Agreement End Date	March 31, 2025



# Questions and Answers

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## Three ways to ask questions:

1. Use the raise hand function in Zoom:
  - Zoom Phone controls:
    - \*6 - Toggle mute/unmute.
    - \*9 - Raise hand.
  - Please introduce yourself by stating your name and affiliation.
  - Keep questions under 3 minutes to allow time for others.
2. Type questions in the question function on Zoom:
  - Please provide name and affiliation.
3. Submit written questions:
  - Send written questions to [kevyn.piper@energy.ca.gov](mailto:kevyn.piper@energy.ca.gov) by no later than August 7, 2020 5 p.m. PST.

**Note that our official response will be given in writing and posted on the GFO webpage in approximately three weeks.**



# Additional Questions

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Please send all questions related to GFO-20-604 to:

**Kevyn Piper**

Commission Agreement Officer

1516 Ninth Street, MS-18

Sacramento, CA 95814

(916) 654-4845

[Kevyn.Piper@energy.ca.gov](mailto:Kevyn.Piper@energy.ca.gov)

**Deadline to submit questions:**

**Friday, August 7, 2020 at 5:00 PM PST**