HYDROGEN RESEARCH AND FUELING FACILITY (HRFF)

Green Hydrogen Testbed supporting Workforce Development, Research, and Community Outreach in the heart of Los Angeles

**DISTINCTIONS**

- Built in 2011, more than ten years of experience as a hydrogen (H2) producer and distributor
- On-site H2 production through electrolysis
- Helped develop test equipment for fueling standards verification (HyStEP)
- First dispenser approval in the world
- First commercial H2 sale by the kg in the world
- Over 10,000 guests have toured the facility

**WORKFORCE DEVELOPMENT**

- Training the next generation of hydrogen engineers

**KNOWLEDGE TRANSFER**

- Sharing curriculum with community college and industry partners

**LIVING LABORATORY**

- Enabling research and demonstration for H2 fueling infrastructure through academic and industry collaborations

**COMMUNITY IMPACT**

- Serving disadvantaged communities; reducing pollution in neighboring communities; providing outreach to schools, government, and industry

Accessible by major transportation corridors, including ports of Long Beach and Los Angeles, providing fuels to cars, buses, trucks, and trailers.
Create a sustainable statewide renewable, clean hydrogen market and ecosystem in California and beyond.

- Utilize renewable resources to produce hydrogen with the objective to fully decarbonize the regional economy.

**HYDROGEN HUBS**

Cal State LA and CSU5+ are members of California’s Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES), prioritizing environmental justice, economic leadership, workforce development, and hydrogen market viability.

**CAL STATE LA HRFF COLLABORATORS AND SUPPORTERS**

- U.S. Department of Energy
- U.S. Department of Transportation
- Governor’s Office of Business and Economic Development (GO-Biz)
- Hydrogen Fuel Cell Partnership
- California Energy Commission
- Air Resources Board
- South Coast Air Quality Management District
- City of Los Angeles
- City of Lancaster
- CSU5+ includes:
  - Cal State LA
  - Cal State Long Beach
  - Cal Poly Pomona
  - Cal State Dominguez Hills
  - Cal State Northridge
  - Cal State Fullerton
  - SoCalGas
  - Symbio
  - RockeTruck
  - Plug Power
  - L.A. County Economic Development Corporation
  - AltaSea
  - Energy Independence Now
  - Cerritos College
  - CSU5+

**CAL STATE LA HRFF STATION SPECS**

<table>
<thead>
<tr>
<th>PRODUCTION:</th>
<th>CURRENT OPERATION</th>
<th>FUTURE OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>STORAGE:</td>
<td>60 kg/day</td>
<td>200 kg/day</td>
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<tr>
<td>60 kg</td>
<td>210 kg</td>
<td></td>
</tr>
<tr>
<td>FUELING TEMPERATURE:</td>
<td>-20 °C</td>
<td>-40 °C</td>
</tr>
<tr>
<td>PRESSURE:</td>
<td>350 bar and 700 bar</td>
<td>350 bar and 700 bar</td>
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<tr>
<td>VEHICLE CAPACITY:</td>
<td>20 light duty p/day</td>
<td>50 light /3 heavy duty p/day</td>
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<tr>
<td>FUELING TIME:</td>
<td>8-10 minutes</td>
<td>4-5 minutes</td>
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</tbody>
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**SELECT EXTERNAL FUNDING**

- **$14.6M Total External Grants**
  - 2024 - $7.2M “Workforce and Renewable Hydrogen for Light- to Heavy-duty ZEV Fueling in Disadvantaged Communities,” from the Department of Transportation. The upgraded hydrogen facility will service customers and fleets, including the ports of Long Beach and Los Angeles.
  - 2023 - $400K in partnership with RockeTruck on “Mobile Fuel Cell Generator, Community-Driven Solutions for a Just and Equitable Energy Transition” as part of a $1.2M award by the Department of Energy Phase I and II Small Business Technology Transfer (STTR) funding.
  - 2022 - $500K “California ZEV Engineering Workforce Pilot by Cal State LA and Cerritos College” from the California Energy Commission to prepare the next generation of engineers for the hydrogen industry and a $50K supporting grant from SoCalGas.
  - 2020 - $625K South Coast AQMD endowed research fellowship for graduate clean air research.

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