

HyDeal LA will turn Los Angeles into North America's first green hydrogen hub and the first to:

HyDeal Los Angeles

Architecting the Green Hydrogen Ecosystem for a Deeply Decarbonized LA

Economy-wide decarbonization is urgently needed to stop climate change and protect our communities' public health, infrastructure, and biodiversity. Green hydrogen is a gamechanger in this transition to a low-carbon future, as **the only viable, scalable option to decarbonize sectors that are difficult to electrify** – such as heavy-duty trucking, seasonal renewable energy storage, industrial processes, shipping, and aviation.

Incremental change is no longer enough – solving the climate crisis requires fast, multi-sectoral decarbonization solutions. That's why the Green Hydrogen Coalition founded HyDeal Los Angeles.

HyDeal Los Angeles (LA) is an initiative to create the first scaled hub for green hydrogen in North America, delivering green hydrogen at under \$2/kg by 2030, consistent with the \$1/kg DOE Hydrogen Earthshot production goal. The initiative brings together the entire value chain across the LA Basin, including production, transport, storage, and multi-sectoral aggregated offtake.

Plants make fuel from water and sun – so can we!



Achieve 100% renewable electricity equitably, affordably, and reliably



Decarbonize fuel refining and move to renewable fuels



Provide green hydrogen and its derivatives for shipping/aviation fuel and fertilizer



Demonstrate green hydrogen fuel cell passenger flight (e.g. Long Beach airport to Sacramento)



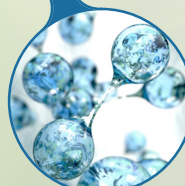
Export low-cost green hydrogen at scale



Work with local Communities of Concern to chart a path forward to achieve improved air quality and public health



Spark creation of high-paying, skilled green hydrogen jobs throughout the West



Serve as a template and catalyst for green hydrogen hubs throughout North America

HyDeal Los Angeles Uncovers the Pathway to Los Angeles' Thriving Green Hydrogen Hub

4 Key Findings

1 Los Angeles can achieve under \$2 per kilogram at scale, delivered green hydrogen by 2030.

1a. The best scenario to reach ~\$1.50/kg green hydrogen in the Los Angeles Basin requires:



Transportation

Transportation via dedicated, 100% hydrogen pipeline that connects LA with Central Utah

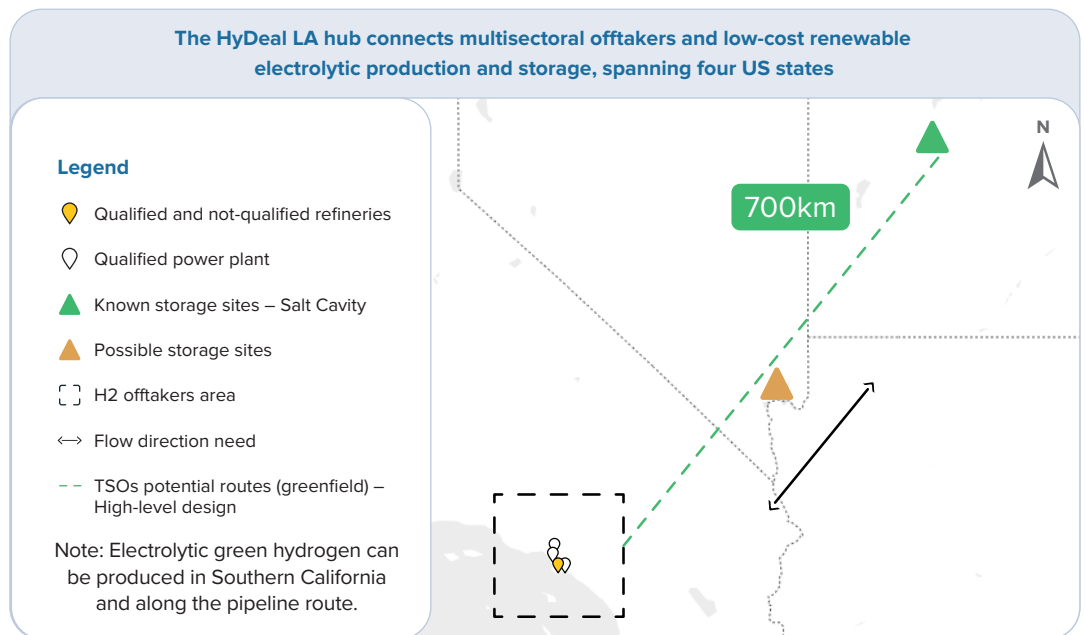


Storage

Underground geologic storage located in salt domes in Central Utah

1b. Near and mid term progress can happen sooner by utilizing existing electric and natural gas infrastructure:

Near Term Now – 2025	Mid Term 2025 – 2030	Longer Term 2030 – 2035
<p>Production: Within the LA Basin through electrolysis, utilizing existing electric infrastructure.</p> <p>Storage and Transportation: Located in above-ground storage in tanks, with road/rail transport.</p>	<p>Production: Outside of the LA Basin.</p> <p>Storage and Transportation: Stored and delivered to offtakers as a blend by injecting green hydrogen into the existing natural gas pipeline.</p>	<p>Production: Outside of the LA Basin.</p> <p>Storage and Transportation: 100% hydrogen pipeline and access to proven underground salt cavern geologic storage.</p>



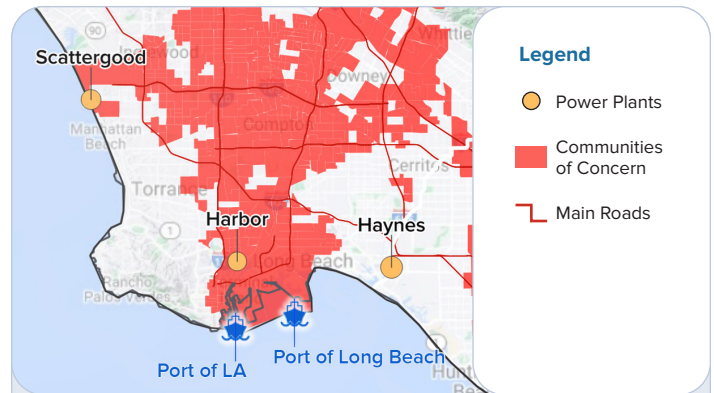
HyDeal Los Angeles was advised by representatives from the following organizations:



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2 Green hydrogen is the key to displacing gas and diesel use around the Ports of LA and Long Beach – and it all starts with the power sector.

First, HyDeal LA can rapidly scale green hydrogen production and use by displacing natural gas in the power plants around the Ports of LA and Long Beach, helping LA achieve 100% renewable energy affordably and reliably. Demand at this scale will drive delivered costs down to <\$2 per kg, enabling adoption of green hydrogen by other heavily polluting sectors in the area, such as heavy-duty trucking. Mass-scale, low-cost green hydrogen will accelerate the transition away from diesel, reducing emissions for communities who suffer most from poor air quality.



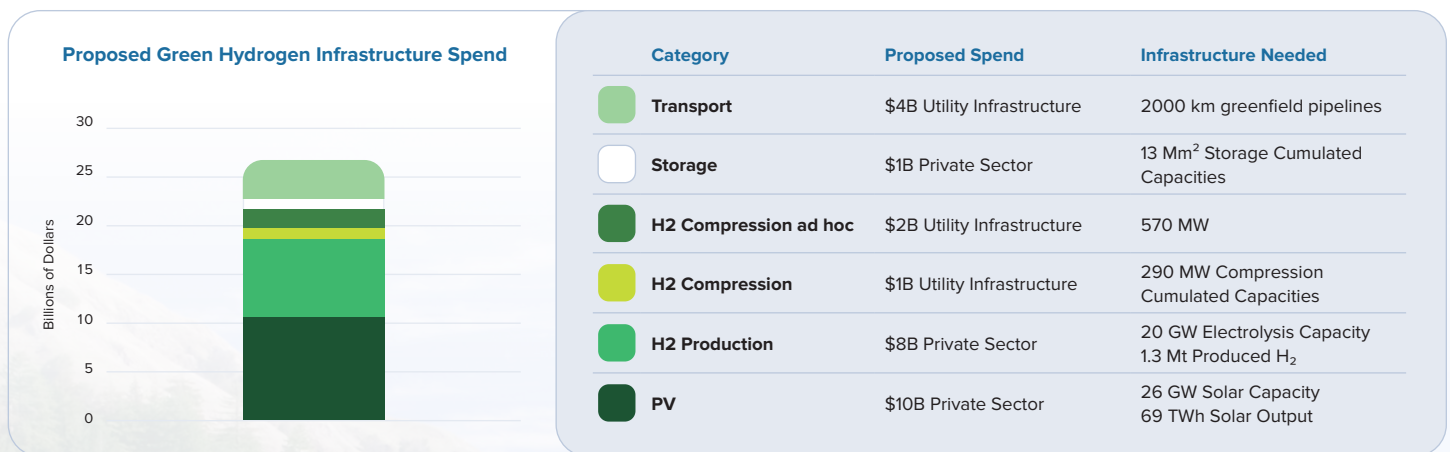
Communities of Concern and Power Plants Around the Ports of Los Angeles and Long Beach

Converting solely cargo handling equipment and heavy-duty vehicles within the Ports of LA/LB from diesel combustion to fuel cell EVs would eliminate 555,280 tonnes of CO₂e per year*, a impact equivalent to planting 9.2 million trees.

*Source: [Port of Los Angeles Inventory of Air Emissions - 2019](#)

3 The green hydrogen economy in California will drive significant private sector investment, economic development, and high-paying jobs.

Creating a system that connects supply, offtake, and storage will require significant new and updated infrastructure. This will drive large-scale investments, sparking both peak-construction and long-term jobs.



The HyDeal LA green hydrogen hub will require an investment of \$27B over ten years. For perspective, this is approximately a quarter of planned status quo infrastructure spending by Southern California gas and electric utilities over the same time period*. This investment opportunity will attract substantial private sector investment and thousands of skilled new jobs throughout the ecosystem with appropriate market design.

*Source: 10-year projection assumes constant annual spend identified in Southern California utilities' capital planning: [Sempra 2021 Investor Day](#); [Edison International Second Quarter 2021 Financial Results](#); [LADWP FY 2020-21 Prelim Budget](#); [IDD 2021 Budget Plan](#)

4 In order to attract investment capital and accelerate progress, it is crucial to reduce regulatory uncertainty and clarify access to benefit pathways.

Regulatory action and market innovation is needed now to make progress on near, mid, and longer term green hydrogen hub pathways. For example, regulatory certainty for the transparent, consistent valuation and compensation of the environmental attributes associated with production and multisectoral use of green hydrogen is key to attracting private investment.

Creating a green hydrogen hub at this scale has never been done before. Federal and State support is crucial to jumpstart progress.

Significant regulatory action and funding is needed to enable investments and start on the path to deep decarbonization.

Help us create momentum in the following areas:

Execute authentic stakeholder engagement

Problem

Many stakeholders are concerned about hydrogen and do not understand its cost, benefits and uses, particularly its benefits in helping and restoring Communities of Concern for a clean and just energy transition.

Solution

Authentic, constructive engagement with environmental justice community organizations about green hydrogen, their concerns and preferences. Invite these organizations to help architect the clean energy transition roadmap through a transparent and inclusive process built on shared principles and goals.

Clarify jurisdictional authority for interstate hydrogen pipelines

Problem

Ambiguity exists regarding interstate regulatory authority for the economic regulation of blended and 100% hydrogen pipelines, impeding project development if left unresolved.

Solution

Through administrative and or legislative pathways, confirm that FERC is the appropriate regulatory authority to approve and regulate interstate blended and 100% hydrogen pipelines.

Accelerate electrolytic electric tariff design

Problem

Green hydrogen producers are unable to access low-cost green power to create grid connected, electrolytic green hydrogen.

Solution

Develop an electrolytic electric tariff framework that enables access to green low-cost grid power for electrolyzers and enables dispatchable demand response for grid support.

Explore waste to green/clean hydrogen pathways for in-basin production

Problem

Los Angeles produces ~89,000 tons of municipal waste every day. Some portion of this waste can be responsibly converted to green hydrogen and should be explored, as the waste is environmentally problematic and costly to LA taxpayers.

Solution

Collaborate with appropriate municipal agencies and develop roadmap and plan for leveraging this abundant local feedstock for in-basin green hydrogen production.

Develop national framework and strategy for establishing green hydrogen environmental attributes

Problem

Currently, there is no system to certify, track, verify, and compensate green hydrogen for its environmental attributes.

Solution

Establish an emissions certification and tracking framework (e.g., Guarantees of Origin) that enables cross-sector accounting for green hydrogen emissions benefits and eligibility toward meeting specific local, state, and national carbon reduction renewable goals energy targets.

Explore green H2 and its derivatives for maritime shipping/aviation fuel and fertilizer

Problem

Shipping and aviation sectors require energy dense liquid fuels and are not state jurisdictional, making them among the hardest to decarbonize.

Solution

Explore pathways to produce liquid green hydrogen and its derivatives for shipping/aviation fuel and fertilizer. Coordinate with federal compliance requirements and progress with ongoing international decarbonized port/airport development activity.



Contact the Green Hydrogen Coalition team with any questions
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