California Energy Commission Hydrogen Infrastructure Workshop

SUSTAINABLE HYDROGEN FUELING STATION

CALIFORNIA STATE UNIVERSITY, LOS ANGELES

Dr. David Blekhman

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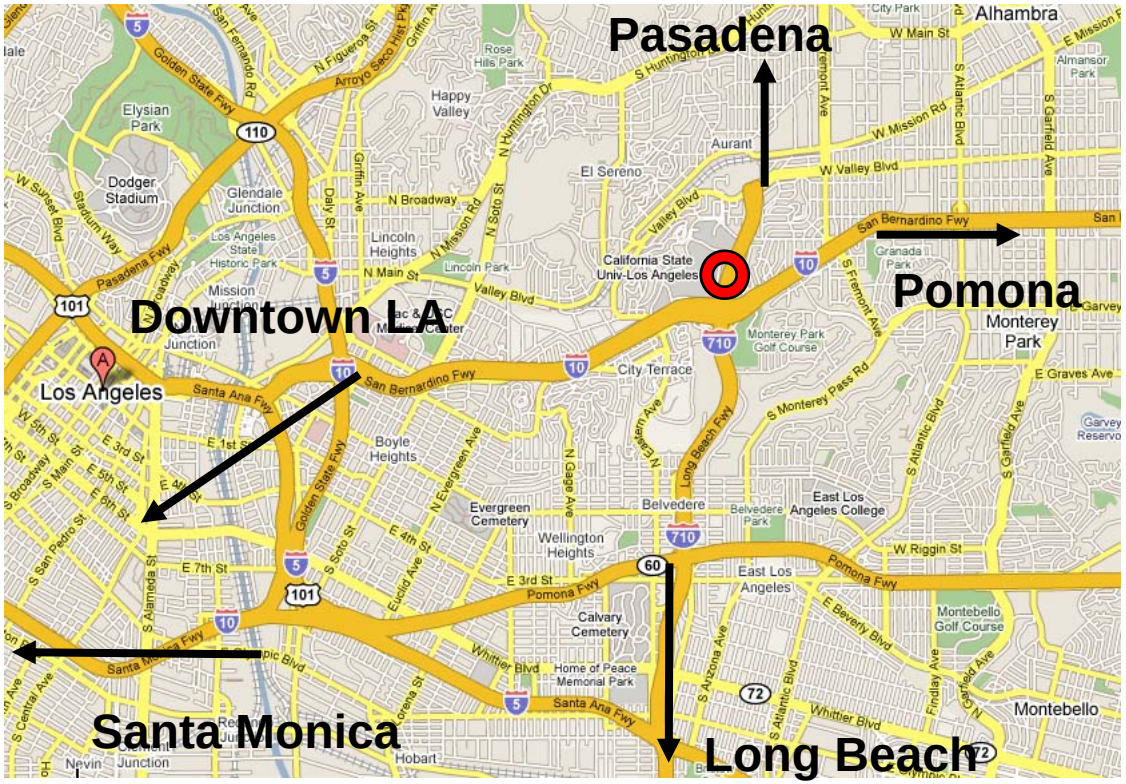
Hydrogen Fueling Facility

- Central Los Angeles Cluster
- Maintenance and Operation Support
- Station Upgrades
- Research Opportunities

Central Los Angeles Cluster

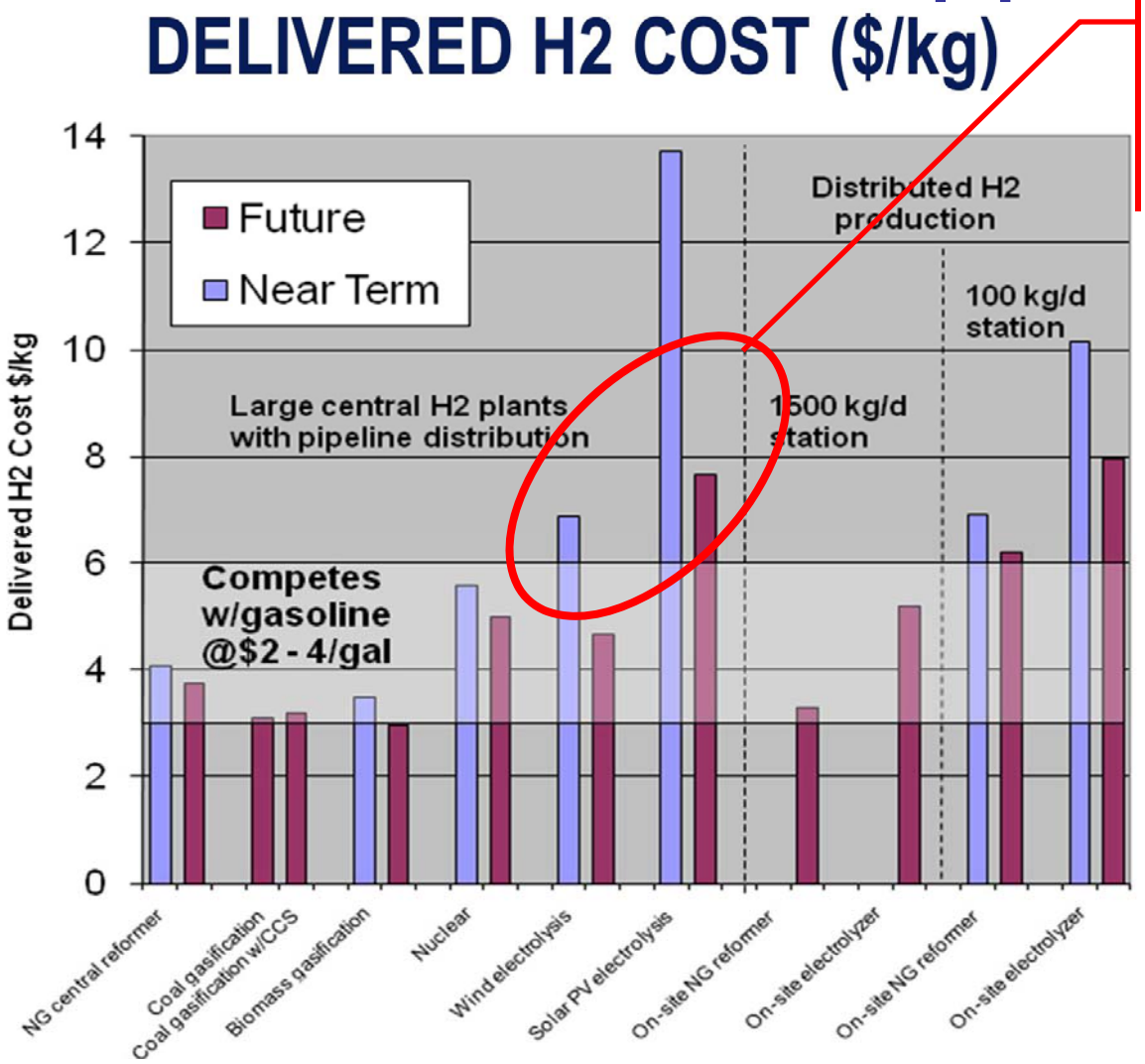


Nearest station is in Burbank

Governor Brown's **EXECUTIVE ORDER B-16-2012**

The State's major **metropolitan areas** will be able to accommodate zero-emission vehicles, each with infrastructure plans and streamlined permitting

Operation and Maintenance Support



The cost only covers basic full time production of H2

Other equipment runs constantly

Full capacity usage is a long term goal

Conclusion: there is a need for support to make hydrogen more affordable

Renewable H2 pathways for California, J.Ogden, C. Yang, UC. Davis, June 29, 2012

Station Upgrades

- Enhanced throughput
- Better customer experience

Hydrogenics Electrolyzer

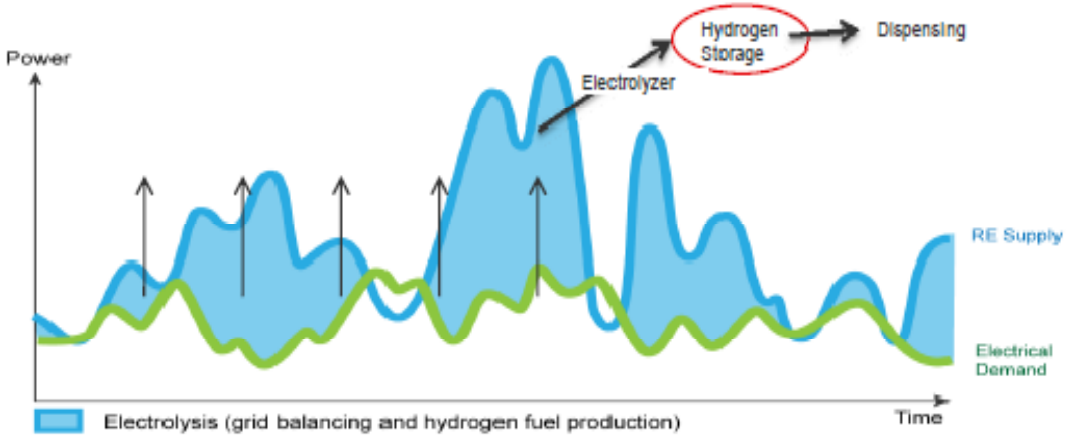
-25 °C Chiller

PDC 350 bar compressor

60 kg Storage

Research Opportunities (Renewable H2: Hydrogenics)

- Performance Optimization, Hydrogen Fleet and Infrastructure Analysis
- Smart Grid: Load Following with Renewable Power Generation
  - Off-peak load
  - Load shedding



Intermittent wind exceeds load

- DOE Requires Cost Share: Make Funds Available as for ARRA and Quick Response Mechanism

Hybrid Vehicle Design Competition

EcoCAR2
PLUGGING IN TO THE FUTURE

California State University Los Angeles

Colorado State University

Embry-Riddle Aeronautical University

Mississippi State University

North Caroline State University

The Ohio State University

Pennsylvania State University

Purdue University

Rose-Hulman Institute of Technology

University of Washington