Potential H2 Infrastructure Policy Levers

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Purpose

- Identify Criteria to Evaluate Potential Policy Lever Options
- Explain Potential Policy Levers to Meet H2 Station Needs and Identify Other Potential Options
- Discussion of Merits to Follow
Criteria for Evaluating Potential Policy Levers

- Timeframe for Stations on the Ground:
  - Phase I: Pre-commercial FCEV deployment
  - Phase II: Early commercial FCEV deployment
  - Phase III: Full commercial FCEV deployment

- Magnitude & Scalability to Match Increasing FCEV Deployments

- Sustainability
  - Focus up to 2020 for today's discussion
Criteria, cont.

- **Key Actors**
  - Can include industry, government, finance, others

- **Barriers**
  - Can include political, coordination, legal, others
Potential Options: Grants

- **AB118 Grants**
  - Currently funding 11 early stations in FY 2009/10 w/ $15m plus private match and $1.25m from SCAQMD
  - $10m approved FY 2010/11 and $8m proposed for FY 2011/12
  - Authorized through 2015

- **Background: Federal H2 Tax Credits through 2014**
Potential Options: LCFS Credits

- **Low Carbon Fuel Standard Credits**
  - Overall goal of 10% reduction in carbon intensity of surface transportation fuels by 2020
  - Credits for H2 based on carbon intensity reduction times throughput
  - If gas prices go down, LCSF credit may become more valuable (due to higher incremental costs to purchase biofuels)
    - Potential hedge against drop in gas prices
Potential Options: GHG Credits

- Greenhouse Gas Cap & Trade Allowances
  - CARB currently deciding free allowance allocations for H2 from 2013-2020
    - Large industrial H2 producers already included in free allowance distribution; distributed producers from renewables or natural gas may “opt-in”
    - Allocate for FCEV H2 based on displaced petroleum GHG emissions, or lower value based on steam methane reforming GHG emissions?
  - Some allowances will be auctioned with revenue use TBD by legislature
Potential Value of Free Allowances Cap and Trade Phase I

- Gasoline displacement benchmark w/ renewable H2
- CARB central SMR benchmark
Potential Options: Financing

- Financing
  - California Transportation Financing Authority
    - Not currently used for H2 stations
    - Requires secure revenue stream
  - Private finance opportunities?
Potential Options: Regulations

- **Clean Fuels Outlet (CFO) Mandate**
  - CARB currently workshoping CFO revisions
  - Triggers with a certain level of vehicles, then sunsets at 10% of retail stations

- **Zero Emission Vehicle (ZEV) Regulation**
  - ZEV gives credit for vehicle deployments
  - CARB considering amendments for vehicles requirement to take effect 2018 & beyond
Other Potential Options

- MOU/Joint Venture
  - German H2 Mobility example: government, OEMs, industry, others

- Increase Gas Tax (or price floor) and Invest in Clean Transportation

- Other options?
Participant Discussion

- Potential Criteria for Prioritization of Options
  - Timing
  - Magnitude
  - Scalability
  - Sustainability
  - Key Actors
  - Barriers
  - Overall synergies