

Renewable Hydrogen: The Environmental Perspective

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Energy Independence Now

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Energy Independence Now

- Why are we here?
 - California Hydrogen Highway
 - SB 1505 co-authors (w/ UCS)
- Hydrogen Advocates
 - A consistent pro-hydrogen voice

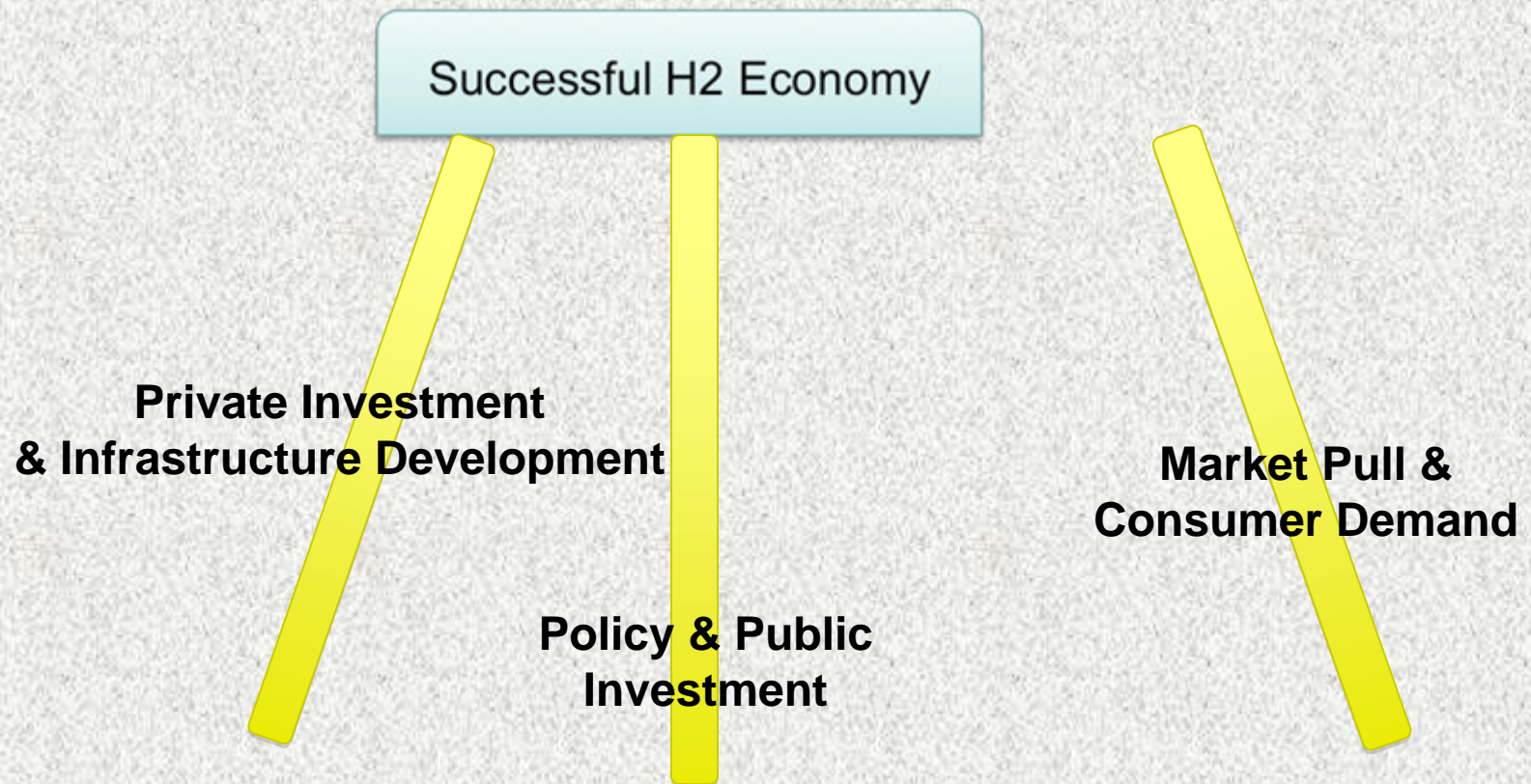
Renewable Hydrogen

- Environmental Perspective
- SB 1505 Opportunity
- Government role
- Harnessing the environmental community

The Environmental Community

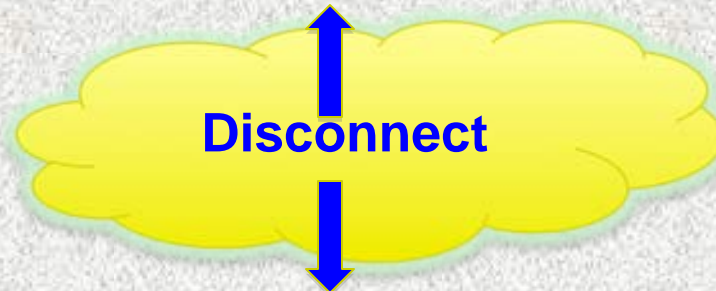
- Who are we talking about?
 - NGOs, academics, customers, concerned citizens, health community
- Why do we need Enviros?
 1. They are the primary constituency pushing for GHG (and criteria pollutant) emission reductions
 - **Without environmental push, political will to pursue hydrogen or other advanced vehicle technologies suffers**
 - **H2 can easily fall off the table without enviro support**
 - Need support for public funding
 2. Early Adopters
 - Who will buy the first cars?
 - Wealthy and/or Environmentally Conscious

The Environmental Community



The Environmental Perspective

- Popular Press and General Sentiment
 - General **Skepticism** towards **Hydrogen**
 - “Maybe in the future”
 - BEVs and PHEVs have gained favor



- Long term climate goals
 - General 2050 Modeling Scenarios Conclusions:
 - If we want to reach our emissions targets (i.e. 80% below 1990 by 2050), we need all hands on deck, starting today
 - **Low carbon Hydrogen has to play a large role**

Engaging the Environmental Community

- Need to get Environmental Community, and public, excited about Hydrogen again.
- **Key = Renewable Hydrogen**
 - SMR of NG needs to be shown as a bridge strategy that delivers benefits *today*. SMR does not excite Enviros
 - Showing Progress toward Renewable H2 is Critical
 - Need stations on the ground
- Enviros are on your side, even if they don't know it yet
 - Clean Cars Coalition, the most active group in this space, is generally supportive of H2
 - Ultimately, Plug-in folks want zero-emission travel → H2 can Provide this
- Legislature skeptical w/o results

SB 1505 Creates Opportunity

- Significant barriers to entry for Hydrogen Infrastructure
- Barriers even greater for Renewable H2
 - But without it, we can't get environmental support
- SB 1505 provides regulatory certainty needed to pursue renewable H2
 - Reward = Excitement and groundswell support from environmental community. Increased volume, adoption rates, etc.
 - LCFS credits for ULCF
 - Take advantage of SB 1505 benefits with Government help

Government's Role

- Create Regulatory Certainty and Market Pull for Renewable Hydrogen
- Reward pursuit and implementation of Renewable H₂ production → In Society's Interest
 - One example: AB 118 funding for station O&M → fund renewable stations 70/30 or better, non-renewable 50/50 or worse until self sufficient
- Maintain Focus on the End-Game: De-Carbonize transportation

Industry Role

- You have a great story to tell. Tell it (and let us help you)
- Push back on the criticism
 - H2 is ready for prime time
 - We can and will develop renewable H2 infrastructure, but present realistic expectations
 - Highlight progress
 - You cannot achieve CA GHG goals without H2
 - Not an EV vs H2 debate
 - Publically celebrate accomplishments, especially with renewable hydrogen

Industry Role

- Inform Agencies, Legislators, and NGOs about the hurdles you face and good news stories
 - What are the merits and costs of various renewable options?
 - What does the Long Term Financial Picture look like?
 - *What's it going to take?*
- Give Agency Staff and Legislature reasons to fund H2 development
- Tout the GHG benefits associated with SMR from NG but keep story focused on the End-Game → Renewable Hydrogen

Industry Role

- Use the Environmental Community as a Partner to drive policies that are good for **business** and the **environment**



THE INTERNATIONAL COUNCIL ON
CLEAN TRANSPORTATION



Thank You

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