California Environmental Protection Agency

Air Resources Board

California Energy Commission
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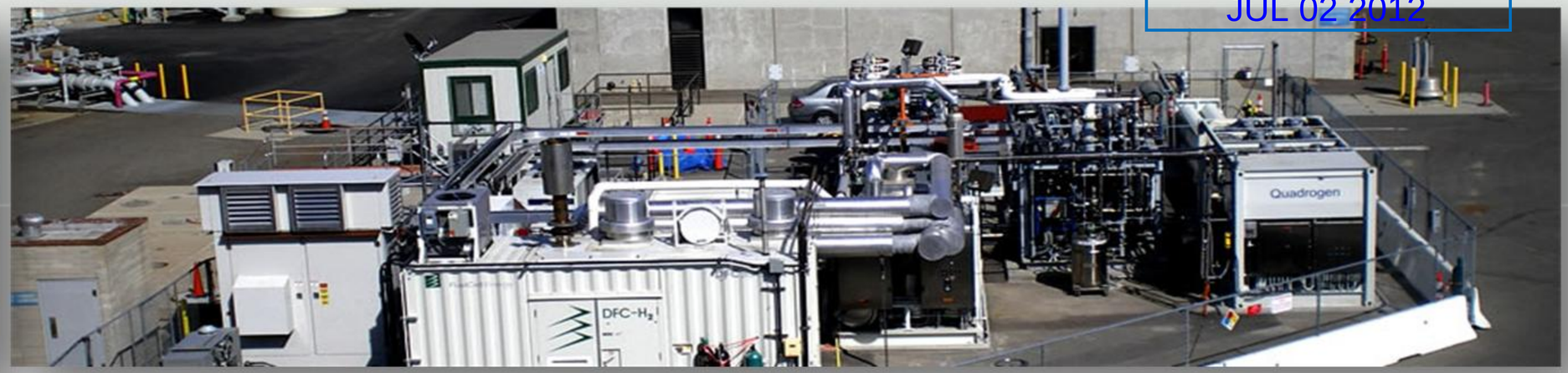


Environmental and Energy Standards for Transportation Hydrogen Production - SB1505

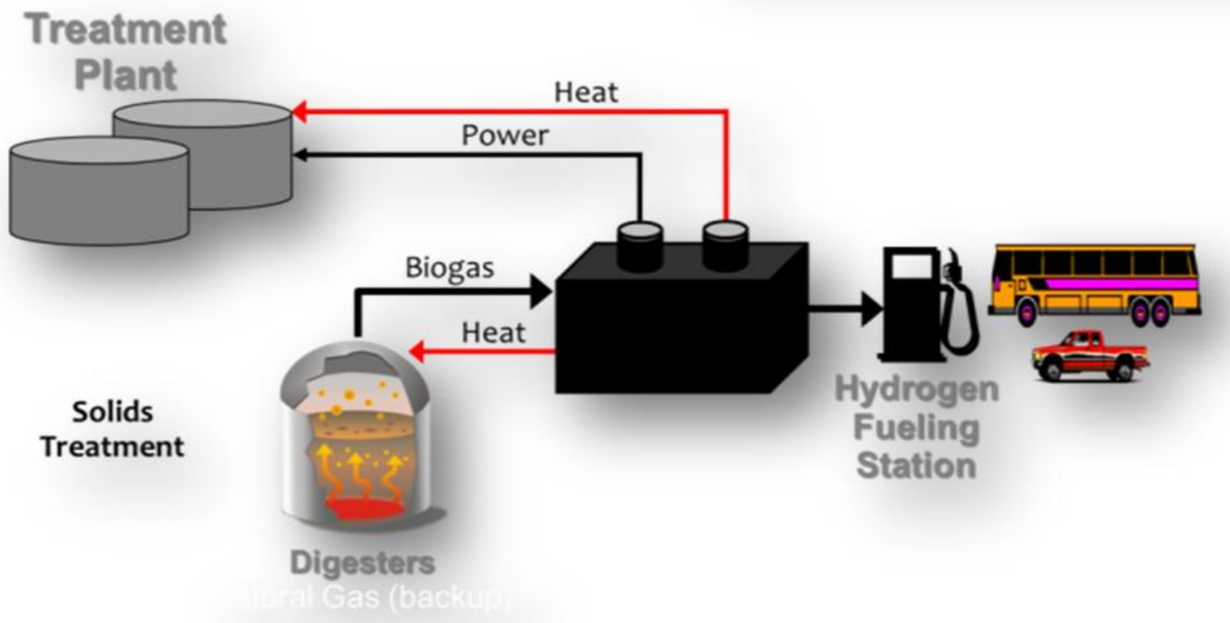
California Energy Commission

June 29, 2012

SB1505 Overview

- Establishes environmental and energy standards for hydrogen production used in transportation

- Supports movement away from non-renewable transportation fuels



SB1505 Requirements

- Emissions
  - 50% reduction of NOx plus ROG (WTT)
  - 30% reduction of greenhouse gas (GHG) (WTW)
  - No increase in toxic air contaminants (WTT)
- Energy
  - 33.3% of hydrogen produced made from renewable resources

SB1505 Applicability

- Immediately to state co-funded hydrogen stations
- All hydrogen stations upon reaching state-wide threshold of 3,500 metric tons/year
  - 3.5 million kg/yr, ~9,589 kg/day, ~13,500 cars

SB1505 Progress to Date

- Between 2007 to 2010, ARB held workshops and meetings with stakeholders

- Draft regulatory language and Initial Statement of Reason prepared in 2010

- Regulatory package not presented to the Board
  - 2010 implementation of the Low Carbon Fuel Standard (LCFS)

Additional Refinements In Key Areas

- Eligible renewable sources
- Eligible credits
- Definition of regulated parties
- Lifecycle assessment of production pathways
- Determination of 33.3%
- Reporting and determination of compliance

Ensure alignment with existing regulation and simplify implementation

Current Thoughts on Eligible Renewable Sources

- Renewable feedstocks
  - Biomass
  - Digester gas
  - Municipal solid waste or landfill gas
- Renewable electricity
  - Solar thermal or photovoltaic
  - Fuel cell
  - Wind
  - Geothermal
  - Small hydroelectric generation
  - Ocean wave, thermal or tidal

Eligible Renewable Sources (cont')

- Renewable Credits
  - Purchase of Renewable Energy Credits of electricity (WREGIS) or biogas
  - LCFS credits from biomethane, renewable hydrogen or electricity
- List is not all inclusive
- Open to discussion

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Thank You