Hawaii Energy Policy Forum

*Transportation Sector – Goals, Challenges, Pathway(s):* Hydrocarbon Role & Future

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Propane Fuel Supply

Keeping Hawaii’s Air Clean

Powered by HAWAII GAS
THE CLEAN ENERGY COMPANY
Incorporate Increasing amounts of Renewable Natural Gas

- Resources are now being harvested
  - Landfills and wastewater treatment plants
- Additional resources are being explored
  - Agricultural crops, construction waste
LNG is stored on board the FSRU, which then converts it back into natural and send it to shore via a subsea pipeline.
HCATT Currently Manages 11 Air Force Research Lab Projects (Vehicles are all hydrogen Fuel Cell Powered):

- (1) R-12 Re-fueler,
- (2) Crew Bus,
- (3) Dump Truck,
- (4) Heavy Aircraft Tug,
- (5) Weapons Loader,
- (6) Secure Power Van,
- (7) Hydrogen Production,
- (8) Net-Zero F-22 Facility,
- (9) 10 TPD W2E,
- (10) Medium Wind,
- (11) Air Guard Micro-Grid (not Depicted)
HCATT will install a “Millennium Reign” (Like the one at the left), 2kg/per day Electrolyzer, Compression, Storage and Dispensing Unit at 531 Cooke Street in June 2016.

HCATT received funding from the State of Hawaii to design a hydrogen production and fueling Station for the State Department of Transportation this session.

The station will Service DoT Airports Rental Car Shuttle Buses, and other State vehicles.
Marine Corps Base Hawaii Dual Pressure Hydrogen Fueling Station

Clockwise:
• MCBH site infrastructure
• Completed fueling station
• Hydrogen Transport Trailer-75kg at 230 bar
• GM Equinox fuel cell electric vehicles receiving 10,000 psi fast-fill hydrogen (under 5 minutes)
• First UNATTENDED hydrogen station in Hawaii
• MODEL for future public stations
• Also fuels Heavy Duty Buses & vehicles at 5,000 psi
Hydrogen Grid Support – Big Island

• Rendering of NELHA site layout.
• Picture of hydrogen production equipment being tested at manufacturer’s site.
• Equipment ready and waiting for site work to be completed before shipping to NELHA.
• County of Hawaii Hele-On fuel cell electric bus being converted by US Hybrid.
• Scheduled completion August/September 2016 (subject to infrastructure contracts).
First of 2 buses nearing completion by US Hybrid at HCATT Facility

Rendering of HAVO Hydrogen Fueling Station – Expected Completion ??????
Most significant achievement to date in achieving a cleaner transportation system or role in meeting clean energy goals
- Low cost and clean propane and natural gas
- Developing renewable fuels (natural gas & hydrogen)

Fundamental/transformational changes needed in the next 5 years to support a cleaner transportation system
- Convert to propane, community approval for natural gas and incorporate increasing amounts of renewable natural gas & hydrogen

Organization/sector's biggest challenge or barrier to transforming the transportation system
- 500 million gallons of fuel needs to be replaced = long time
- New technology + behavior = slow adoption rates
- Cost effective renewable fuels and electricity