

Natural Gas & Electricity: Pathways to Affordable Low Carbon Motor Fuels



David E. Bruderly PE
1221 Molokai Road
Jacksonville, FL 32216-
3275
352-281-2696 Cell

bruderly@aol.com



LNG / CNG / EV Targets: Fleets



Marine Vessels



Long Haul & Delivery Trucks



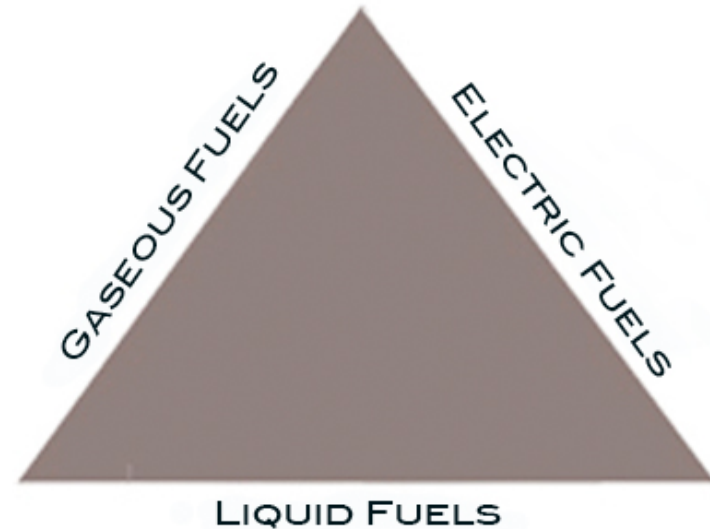
Rail



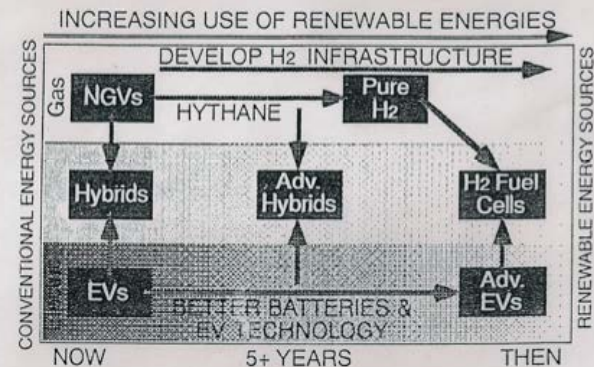
Off Road & Specialty Trucks

Econ 101 -- Fuel Diversity Empowers Consumer Choice

- **Liquid Petroleum-Based Fuels**
 - Ethanol Blends
 - Biodiesel Blends
- **Efficient Hybrid Electric Drives**
 - Advanced Batteries
 - Super Capacitors
- **Gaseous Fuels**
 - LPG
 - Natural Gas – LNG & CNG
 - Hydrogen
 - ICEs - Hythane
 - Fuel Cell EVs

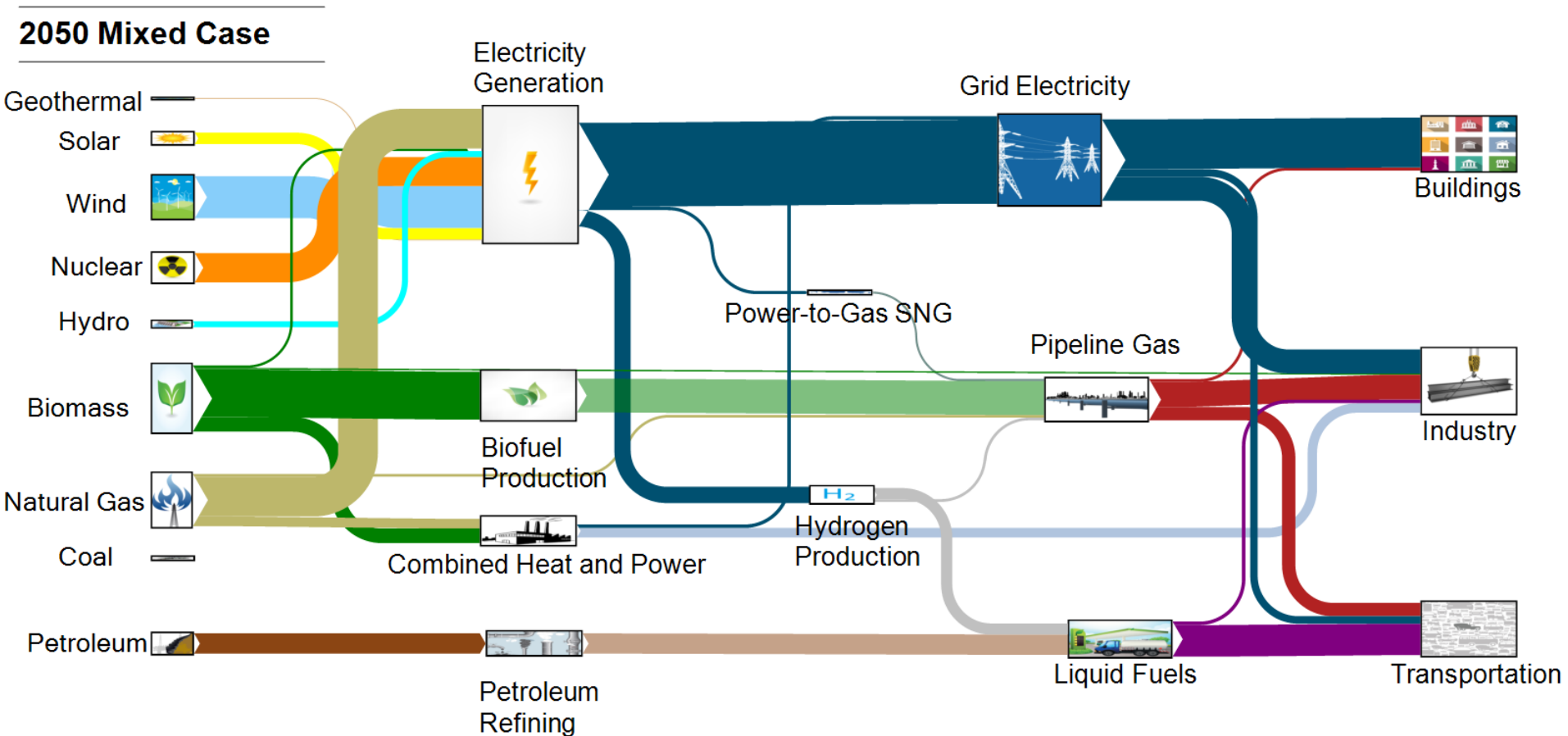


Parallel Paths to Renewable Energy



Decarbonized Energy System

(Williams, et. al., CARB, 13 May 2015)



FESC OPPORTUNITY

PLANNING for NG, EV & H2 VEHICLES & LOW CARBON ENERGY INFRASTRUCTURE

80% GHG Reduction by 2050 !! -- HOW DO WE GET THERE ?

PLAN – RESEARCH – POLICY

