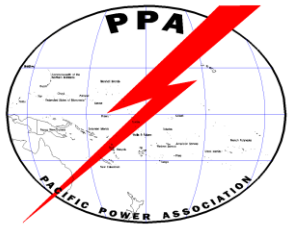


LPG: Exceptional Energy for Australia, New Zealand & the Pacific Islands

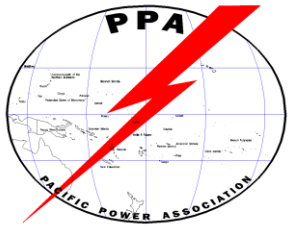
Gordon Chang
Pacific Power Association
Suva, Fiji

WLPGA Regional Summit
Gold Coast, Australia
18 May, 2016



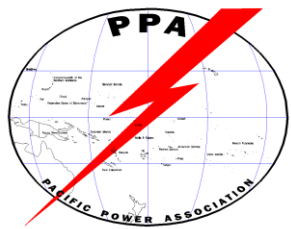
Pacific Power Association:

- Established - 17 July 1992
- Secretariat is based in Suva, Fiji
- 25 Electric Utilities, 95 Private sector businesses
- objective is to improve the quality of power in the region through a cooperative effort among the utilities, private sector and regional development partners
- Facilitates technical studies and surveys, conferences, capacity building, information services, publications, represents utilities in energy fora

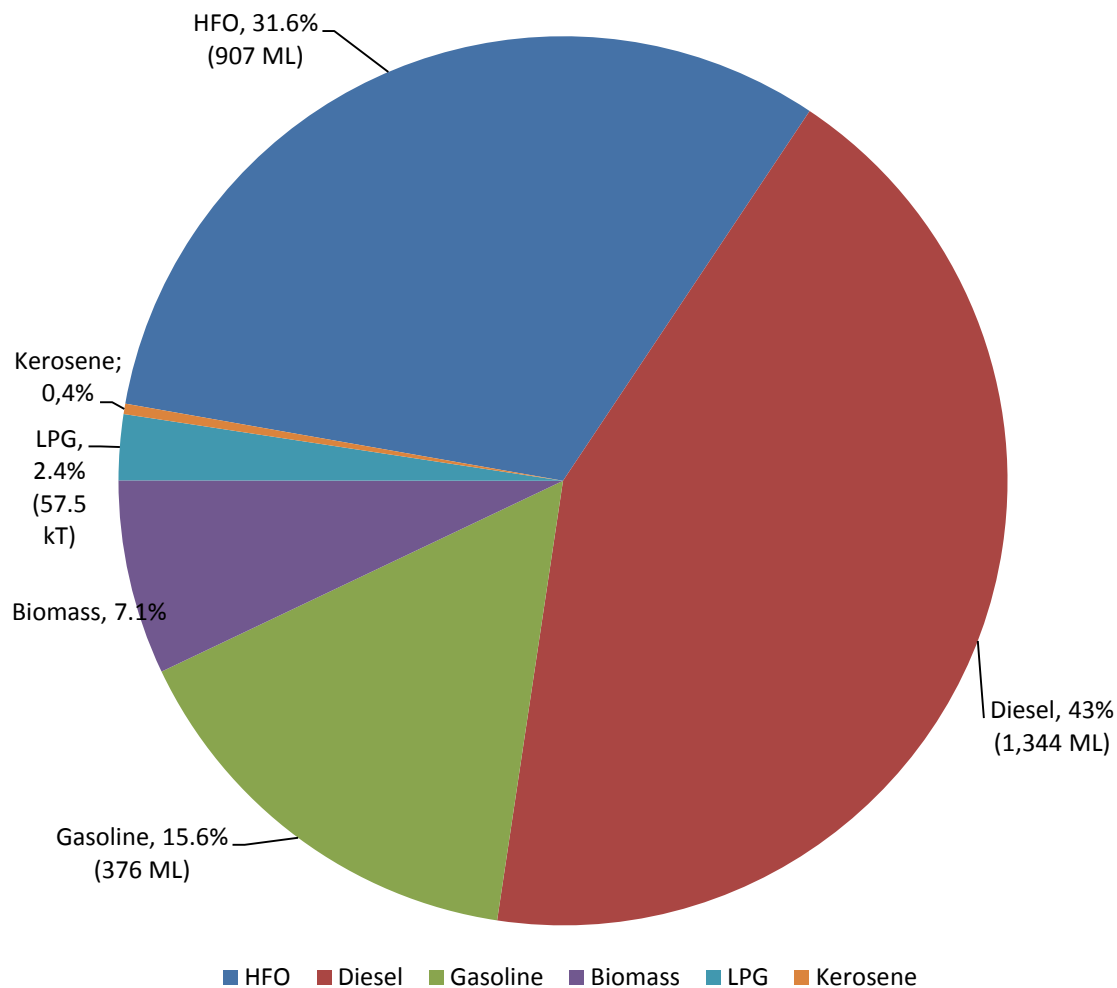


Characteristics of Pacific Island Utilities

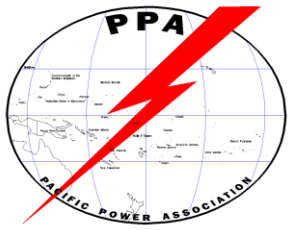
- spread over an ocean area larger than Europe
- Range from under 1 MW of maximum demand serving a few hundred customers to those with hundreds of MW serving thousands of customers
- Electrification rates - under 20% in several Melanesian countries to nearly 100% in much of Polynesia
- 100% dependent on imported petroleum fuels, and alternative indigenous energy sources are meagre or unproven
- Most power utilities are self-regulating
- three different sets of technical standards in the region
- a legacy of decades of subsidies for generating equipment and/or fuel
- national tariff structure (e.g. Fiji; PNG; Samoa; Solomon Islands) which results in high levels of cross subsidies
- private profit-making companies but some have government-established tariff structures that have routinely been set below the cost of supply



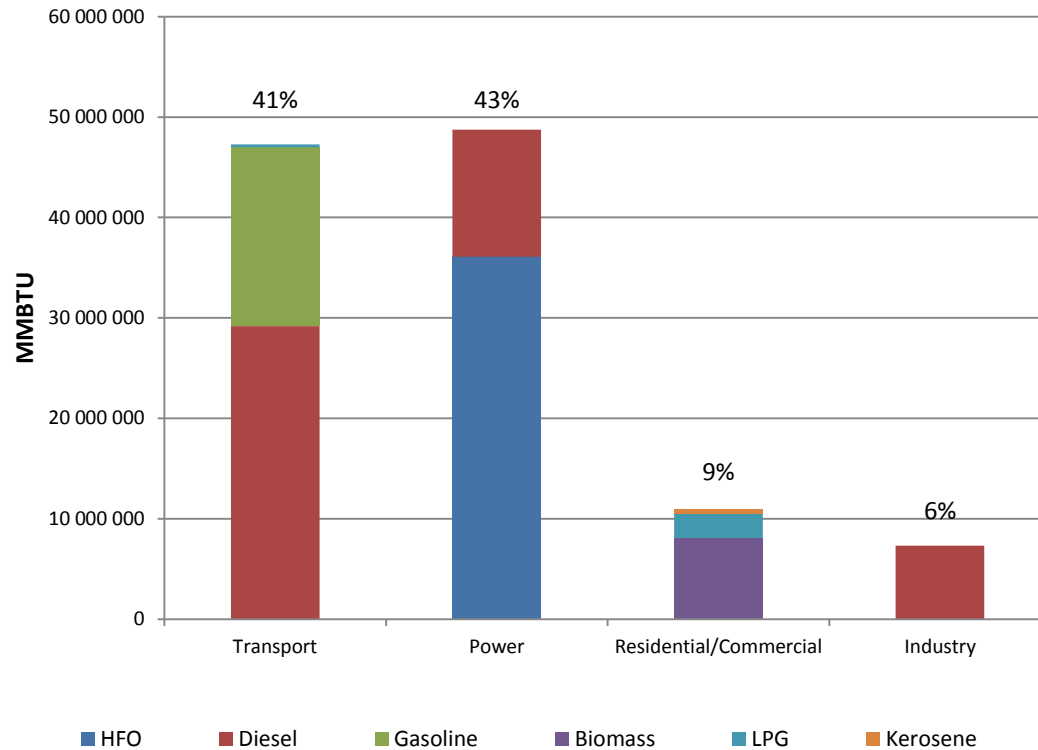
PICTs Fuel Demand by Product Type



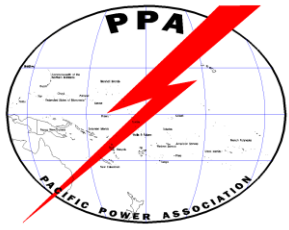
Source: Preliminary Draft Research Report: LPG and Natural Gas as Alternative Energy Sources for the Pacific



PICTs Fuel Demand by Sector Excluding Coal in New Caledonia

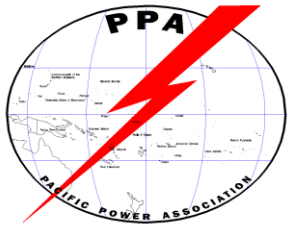


Source: Preliminary Draft Research Report: LPG and Natural Gas as Alternative Energy Sources for the Pacific



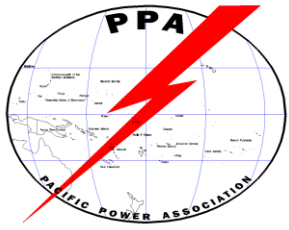
Need for Alternate Source of Energy

- Explore other fuel options to diversify energy source
 - Renewable Energy
 - Gas (already in domestic/light industries)
 - Displace diesel/HFO in electricity generation
- Benefits (energy content/GHG reduction)



Challenges to the Utilities Transitioning to Gas

- Small individual demand
- Infrastructure needs to be in place
- Market condition and supply arrangements must be such that gas is cheaper than diesel
- Investment to convert utility Assets



PPA would be keeping a watching brief on developments in the region.

With advance in technology, the situation could change in a short time and the utilities could transition to gas.