LPG

THE PERFECT PARTNER FOR RENEWABLE ENERGY IN POWER GENERATION SYSTEMS

WORLD LPG ASSOCIATION
www.wlpga.org
LPG AND RENEWABLE ENERGY: NATURAL PARTNERS IN POWER GENERATION

LPG & POWER GENERATION

- **Low CO₂ Emissions**
- **Quiet Operation**
- **Close to Zero Particulate Matter Emissions**
- **It's Abundant Supply**
- **Widespread Infrastructure**

CHALLENGES FOR POWER GENERATION USING RENEWABLE ENERGY SOURCES

- **High Capital Cost**
- **Intermittent Power Production**
- **Generation Patterns That Are Often Misaligned to the Market's Needs**
- **Distribution Challenges**

DISTRIBUTED POWER SUPPLY IS BECOMING INCREASINGLY POPULAR AS AN ALTERNATIVE TO TRADITIONAL GRID SYSTEMS

HYBRID SYSTEMS CAN:

- **Provide On-Site Power**
- **Ease the Strain on Existing Centralised Power Grid**
- **Reduce Inefficiencies Due to Transmission Losses**
- **Hybrid Systems Can Share the Energy Load Between Renewable Energies and Low Emission LPG, Building a Bridge to the Future**

LPG IS RARELY SEEN AS A FEEDSTOCK FOR POWER GENERATION, DESPITE

- **It's Abundant Supply**
- **Widespread Infrastructure**

ON THE ISLAND OF ST. CROIX, AN EXISTING POWER PLANT WAS CONVERTED TO LPG, RESULTING IN FUEL COST SAVINGS OF $6M IN THE FIRST TWO YEARS.
LPG AND RENEWABLE ENERGY FOR POWER GENERATION

LPG IS AN IDEAL FUEL FOR POWER GENERATION, PARTICULARLY IN REMOTE AREAS SUCH AS ISLANDS OR PLACES WHICH ARE NOT CONNECTED TO ENERGY GRIDS

- **LPG CAN PROVIDE**
  - Consistent, stable power baseload regardless of weather conditions

- **LPG CAN DELIVER**
  - Modern, low emission power

- **LPG CAN BACK UP COMMERCIAL SOLAR SYSTEMS**
  - Which store solar-heated water with thermal efficiencies greater than 95%

- **HYBRID SYSTEMS**
  - Are already attracting annual, global investment of more than $200 billion and are commercially viable today

- **WITH HYBRIDS**
  - Fuel volumes are lower and existing LPG infrastructure can often be used – natural gas/LNG systems need infrastructure to be developed, adding to cost

**WHY LPG?**

- **EASY & SAFE HANDLING**
  - Portable, available everywhere, stored at low cost and indefinitely

- **HIGH EFFICIENCY**
  - LPG is easy to transport and store and burns very efficiently with a heating value about 10% higher than other liquid fossil fuels, and roughly equal to that of natural gas

- **LOW CARBON & CLEAN BURNING**
  - Compared to other fossil fuels, LPG is relatively low carbon. It also has no black carbon (or PM) emissions

- **ABUNDANT SUPPLY**
  - LPG is obtained from the production of natural gas and crude oil refining and can be produced from renewable sources in the form of bioLPG

**MUCH CLEANER**

- Than competing fuels such as HFO

**LOWER INFRASTRUCTURE**

- Requirements, construction periods and storage costs than LNG

**THERE ARE NO SIGNIFICANT TECHNICAL OR ECONOMIC BARRIERS WITH POWER GENERATION TECHNOLOGIES TO RUN ON LPG**

**CHEAPER**

- Fuel cost savings of $6M in the first two years of power generation

**QUICK & EASY**

- Conversion of an existing power plant on the island of St. Croix to LPG fuel

**EASY & SAFE HANDLING**

- Portable, available everywhere, stored at low cost and indefinitely

**HIGH EFFICIENCY**

- LPG is easy to transport and store and burns very efficiently with a heating value about 10% higher than other liquid fossil fuels, and roughly equal to that of natural gas

**LOW CARBON & CLEAN BURNING**

- Compared to other fossil fuels, LPG is relatively low carbon. It also has no black carbon (or PM) emissions

**ABUNDANT SUPPLY**

- LPG is obtained from the production of natural gas and crude oil refining and can be produced from renewable sources in the form of bioLPG

**MUCH CLEANER**

- Than competing fuels such as HFO

**LOWER INFRASTRUCTURE**

- Requirements, construction periods and storage costs than LNG

**THERE ARE NO SIGNIFICANT TECHNICAL OR ECONOMIC BARRIERS WITH POWER GENERATION TECHNOLOGIES TO RUN ON LPG**

**CHEAPER**

- Fuel cost savings of $6M in the first two years of power generation

**QUICK & EASY**

- Conversion of an existing power plant on the island of St. Croix to LPG fuel