Lower-Cost, Cleaner Power for Caribbean

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Fuel-Based Approach to Caribbean Power

• HFO and Diesel
  ↑ Pros: Existing infrastructure and fuel supply, broad acceptance
  ↓ Cons: Rising fuel costs, highly polluting

• Renewables
  ↑ Pros: Minimal fuel costs, zero emissions
  ↓ Cons: Intermittence, unsuitable for baseload, large footprint, technology investment

• LNG and LPG
  ↑ Pros: Stable pricing, low emissions, abundant supply, easily transported
  ↓ Cons: Install/retrofit generation equipment to burn LNG and LPG
What stands out?

1. Cost
Shifting Fuel Landscape

HFO/Diesel on the rise vs. lower, stable pricing for LNG/LPG

Fuel Cost Trends*

NGLs to remain constant for next three years

*Source: Chicago Mercantile Exchange
If your plants run on HFO or diesel, with rising prices and fuel representing 70% of your cost to generate power, you have a problem.
Why LNG/LPG prices will remain constant

Increased natgas supplies detaches pricing from crude oil

• LNG pricing no longer tracks crude oil as a result of shale gas production in U.S. and increased U.S. exports of LNG

• Continued U.S. investment in fracking and other cost-efficient means of extraction will result in stable supply and pricing

• 60% LPG currently comes from natural gas, 40% from crude oil; as U.S. shale gas production expands, supplies of lower-cost gas-based LPG will increase

• Cost of LPG production is marginal compared with crude oil refinement
Future Savings Opportunity

Natural Gas vs. Diesel: Potential savings of $88.2M over three years*

Fuel Cost Assumption: 30MW at 95% Utilization

*Based on 95% utilization over 36-month period, assuming existing regional assets and APR Energy generation assets.
What stands out?

2. Emissions
LNG/LPG – Significantly Lower Emissions

Cleaner power for tourism-based Caribbean economies

- While CO2 emissions are comparable, a shift to LNG/LPG could reduce NOx emissions by more than 90%
- SOx emissions and particulate matter also are significantly lower

*Emissions at 15% O2 and 30°C, in mg/Nm3; assuming water injected turbines for LNG/LPG
When it comes to cost and emissions …

LNG and LPG are the clear winners for Caribbean baseload power
No Shortage of LNG/LPG Suppliers
And there’s a proven technology that can burn LPG and LNG
Fuel-flexible turbines enable utilities to easily shift to LNG/LPG

Advantages

- Significantly lower fuel costs
- Reduced environmental impact
- High power density
- Proven solution with power available in 30-90 days
- Seamless transition from diesel once LNG or LPG comes online
APR Energy’s 25MW plant in USVI is world’s first TM2500 mobile turbine to run commercially on LPG
We’re also working with New Fortress Energy to bring fast-track LNG power to the Caribbean
The case for a shift to LNG/LPG-fired baseload power in the Caribbean …

1. Save Money
   Price stability, lower cost vs. HFO and diesel

2. Reduce Environmental Impact
   More than 90% reduction in NOx, plus reduced noise and smaller site footprint with power-dense mobile turbines

3. Leverage Widely Available Fuel
   Vast global supply, easily transported and stored
Questions?