



Brief assessment of energy storage opportunity

Deployment on an island grid - Caribbean

Clean Horizon analysis and evaluation:

- **Optimal sizing and technology selection for energy storage** (lithium-ion battery) to replace unutilized capacity of diesel engines based on spinning reserve requirements
- **Modeling of battery use** on grid to ensure appropriate operation based on battery system size and optimal dispatch of thermal generation plants
- **Profitability analysis** based on capital and operational expenditures
- **PPA structuring to frame technical and commercial terms** between utility and the IPP

Energy storage business case/rationale:

Implementation of energy storage to optimize spinning reserve allocation on large island grid

Results:

1. Clean Horizon introduced an investment opportunity with a storage asset 4 – 5 year payback time on with unleveraged IRR > 15% over 10 years
2. Composed a PPA structure to lower risk for the IPP while allowing flexibility in usage of the battery for the utility
3. Provided training on battery use and operation

Engagement duration: 5 weeks

Customer involvement: less than 1 day / no need for on-site visit

