



Distributed Generation Application Guides

Outline of Guides and Case Studies

Purpose of Application Guides

- Achieving a technical solution that works
- Model approach to assessing opportunity
- Establishing commercial viability robustness
- Providing a Business Case model

Guideline Content

- Lists and describes applications for a particular DG technology
- Method of assessing scope and magnitude of opportunity
- Specific technical issues
- Quantification of benefits and costs

Proposed DG Guides

1. Diesel & Gas Engine
2. Integrated Hydro/Irrigation
3. Geothermal
4. Biomass
5. CHP
6. Solar HW
7. Wind
8. Waste to Energy

Supported with Case Studies

- Covering subsets of applications targeted by different investors
- Fully developed DCF/NPV Business Cases presented
- DG applications are niche
- Capture and communicate knowledge

CAE Delivery Mechanism

- Progress is constrained by funding
- Seek sponsor partnership with stakeholders to develop guides
- Case Studies funded by investor
- Stakeholder may pro-actively facilitate contact between CAE and investor

Progress

- 1 Application Guide Published
- Diesel Generation – top of pecking order – opportunity exists at every GXP
- 3 Case Studies – 1 implemented, 2 in capex approval phase

Case Study 1

Network Peak Management

- Deferral of transmission upgrade
- Avoidance of transmission cost
- Enhance security and service
- Solution: 3 500kW mobile units applied to multiple opportunities

Case Study 2

Capacity Firming

- Voltage constrained line
- Remote end generation aging with reduced firmness
- Security and service standards unable to be met economically
- Solution: Staged development of hybrid generation – line upgrade

Case Study 3

Industrial Plant DSM

- Orion's CPD price signalling working – passive input
- Consumer has optimised plant for high load factor – has issue with change in pricing signals and level of line company stakeholding
- Solution: Single 1500kVA genset integrated with site LMS

Common Themes

- DG Opportunities highly niche
- High regional development focus
- Line companies biggest enablers
- Customer relationships are an industry issue
- Maximum benefits require all local interest to be working together