

ESCRI-SA Project Status Update

ESCRI Knowledge Sharing Reference Group

12 June 2019

In partnership with:



ARENA
Australian Government
Australian Renewable
Energy Agency



Advisian
WorleyParsons Group

This activity received funding from ARENA as part of ARENA's Advancing Renewables Programme

Presentation outline

- > Overview of the meeting
- > Project background and context
- > Path to commercial handover
- > Current project status

Dalrymple North – Completed Site



Overview of this meeting

- > Project background and status update
- > Performance testing
 - Commissioning tests, including islanding
 - R2 tests
- > 6 Monthly operational report
 - ElectraNet perspective
 - AGL perspective
- > Questions and discussion
- > Future challenges and next steps

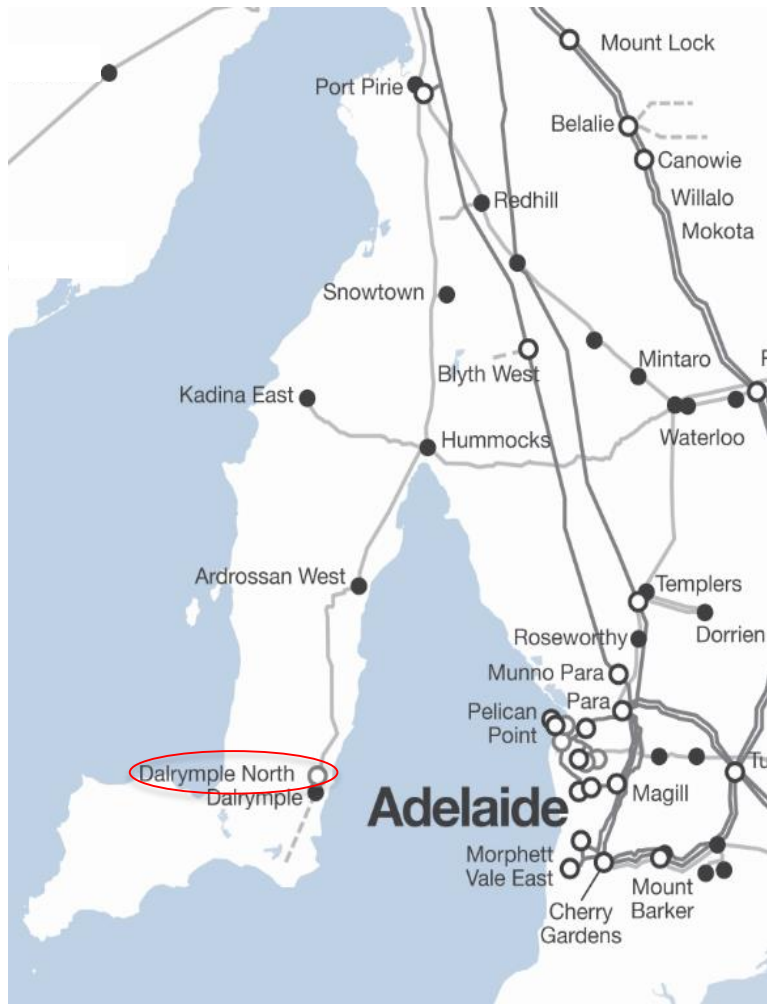
Project scope and objectives

Scope: Nominal 30 MW, 8 MWh lithium-ion BESS

1. Demonstrate that grid scale battery storage can effectively provide network reliability and security services alongside competitive energy market services
2. Demonstrate network ownership of battery storage and appropriate commercial separation of the provision of regulated services and competitive market services
3. Demonstrate islanded operation with 100% renewable generation following transmission outages

1. BESS – Battery Energy Storage System

Location



Benefits / Revenue streams

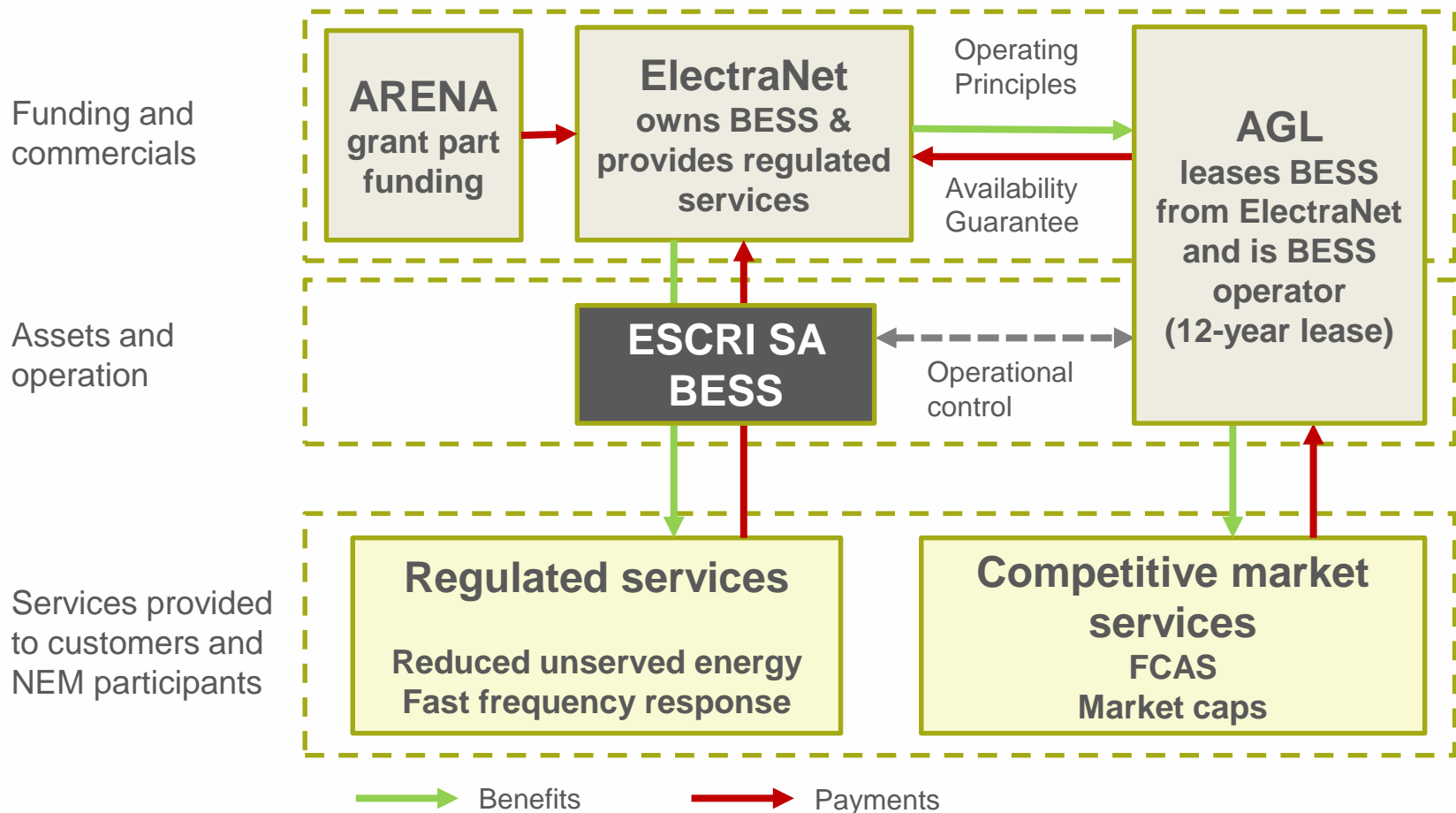
Providing both regulated and competitive market services

Regulated services¹ (ElectraNet)	Competitive market services (AGL Energy)
Fast frequency response Heywood Interconnector benefit	Ancillary services revenue (FCAS)
Reduced unserved energy benefit	Market cap trading

1. During project implementation the BESS was incorporated in the System Integrity Protection Scheme (SIPS), providing additional regulated benefits. The SIPS is an important emergency control scheme that significantly enhances power system security in South Australia (SA) for the non-credible loss of multiple generators in SA.

Commercial arrangements

Providing both regulated and competitive market services

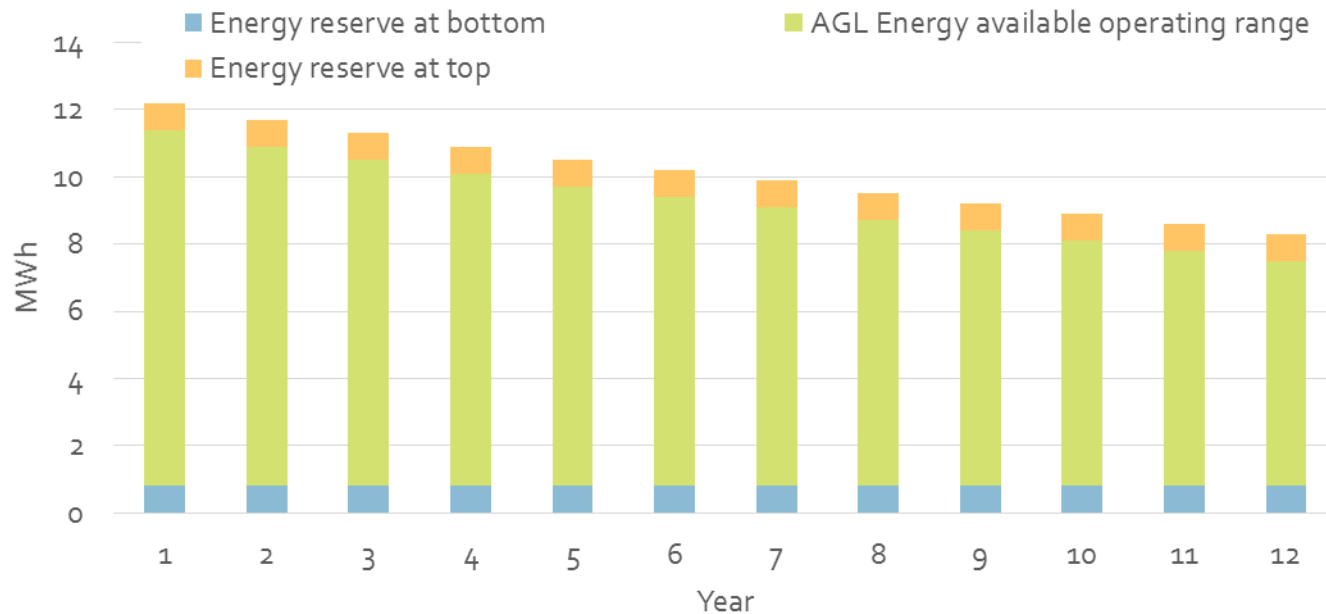


EPC/ D&C contract and 12-year maintenance agreement awarded to Consolidated Power Projects (CPP) following extensive procurement process

Operating principles

Battery Operating Agreement prioritises and protects regulated services

Level of charge at 33kV for non-regulated services	With Windfarm coordination	Without Windfarm coordination
Max allowable level of charge	X – 0.8 MWh	X
Min allowable level of charge	0.8 MWh	4.8 MWh



Path to commercial handover

- > Hold point tests and commissioning tests
 - Original project approach was to drive for full technical completion before commercial handover
 - Decided to proceed with “grid-connected” functionality
- > Commercial handover on 14 December 2018
- > Key defects that still had to be addressed:
 - BESS capability to maintain maximum discharge at 30 MW
 - Cooling changes - installation of additional air conditioner units
 - BESS overload capability under fast charging conditions
 - Wattle Point windfarm integration for islanding scenarios

Project status

- > Activities since the previous KSRG meeting, including defect remediation:
 - Handover to AGL and commencement of commercial operations;
 - Completion of outstanding functional tests (islanding with wind farm, BESS fast charge);
 - Completion of R2 testing.
- > Capital project close-out with CPP
- > Documentation is being collated for inclusion in ElectraNet's document management system
- > Preparing for internal handover to Operations / Maintenance

Key items to achieve internal handover

- > Resolve / close-off all outstanding defects
- > Review and finalise 'as-built' drawings / store in ElectraNet's data management system
- > Review and finalise all technical information – e.g. reports, operation and maintenance manuals / store in ElectraNet's data management system
- > Review and finalise all project-related documentation (including lessons learnt process)
- > Review project performance as per its major drivers (scope compliance, quality of outcomes, timing, costs, stakeholders interfacing and satisfaction)

Questions



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Thank you

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