

# Lessons Learnt Report: Value Management

Project Name: **Lord Howe Island  
Hybrid Renewable Energy Project**



ARENA Knowledge Category	Commercial
Technology Type	Solar PV and Battery Storage
State / Territory	New South Wales
Project Client	Lord Howe Island Board
Project Manager & Owners Engineer	Jacobs
Principal Contractor	Photon Energy Engineering

## INTRODUCTION

Micro grid renewable energy projects can take some time to get from project inception to contract commencement, and during that time, technology and the client concept of value can evolve.

## CONTEXT

Lord Howe Island is located 600km off the east coast of the Australian mainland. Lord Howe and Admiralty Islands Group was listed as a UNESCO World Heritage property in 1982 in recognition of the global significance of the Island's beauty and biodiversity. The Island community relies upon diesel fuel that is shipped in to generate electricity. Transport of this fuel at sea poses risks to the environment and energy security whilst exposing the community to global fuel price fluctuations.

The business case for the Lord Howe Island Hybrid Renewable Energy Project was developed in 2014 by the Lord Howe Island Board, which is a statutory authority charged with the care, control and management of the Island. The project was designed to reduce diesel use by 67%. The initial renewable solution was to include solar and wind generation with battery storage, however, it was determined during the course of the project that the wind turbine component could no longer be delivered. Further feasibility studies undertaken by Jacobs since 2017 identified that a reconfigured and resized solar PV and battery storage generator would provide the same benefits. The Board had previously issued development consent for the solar and battery components of the project in 2016. With consent issued, the model was put to tender, negotiations commenced, and a final contract was awarded to Photon Energy in 2019.

## KEY LEARNING

The Lord Howe Island Board sought to ensure that the extended planning phase for the Lord Howe Island Hybrid Renewable Energy Project did not result in the project failing to keep up with latest technology and community values. Importantly, the community had recently been through the Community Strategic Planning process, so the value management approach allowed for the project team to check in and adjust the project to reflect the vision and future aspirations of the community, particularly in light of the wind generation being removed from the project.

### Learning: Value Management and Community Engagement

The original design in the approved development consent included solar panels located across two lots on the site. With the wind turbines no longer proposed at the top of Transit Hill, and recently

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articulated community sentiments and value placed upon grazing activities, the project team considered consolidating the solar array on to one lot rather than occupying two lots. In depth dialogue with relevant stakeholders resulted in a change in the configuration of the solar array which preserves areas for grazing and reduces the need for high voltage reticulation, long lengths of trenching and long runs of cable. The fixed sum contract meant that the savings realised could be channelled in to additional value items to be delivered within the project budget.

Traffic impacts on the quiet access road leading to the powerhouse and project site had been expressed as a concern for residents. With the savings generated as result of the value management process, a storage shed was proposed which would reduce the need for staff to travel to the secure facility off-site for spares. This would reduce traffic movements past residential houses and directly responds to concerns raised by local residents.

Community engagement also revealed that the community felt public amenities were in short supply on the Island. Through the value management dialogue it was confirmed that Photon Energy would need to import a portable toilet to the Island for the construction phase. Rather than this temporary solution, it was proposed that a permanent composting toilet facility be purchased instead and installed for use during the construction phase, then left as legacy infrastructure for the many tourists and locals who use the walking tracks in the vicinity of the project site. The proposed changes are subject to development approval processes.

### Learning: Value Management and Contracting

The fixed sum contract and its delivery timeframe let by the Lord Howe Island Board meant that there was no scope for budget expansion or delays on the project. The team worked within this fixed sum and milestones to find potential savings from design improvements and optimisations, and redirected those savings to delivery of value-add infrastructure such as expanded solar generation and battery storage, and the provision of legacy infrastructure such as the public toilet facilities and storage shed.

### Learning: Value Management and Contract Relationships

Building strong relationships with consultants and contractors from the outset underpinned the team's ability to be able to honestly discuss the opportunities for the project to deliver value, and to understand the risks and costs those opportunities might pose. These conversations are held with an understanding of the risk appetite of the client organisation. Clear deadlines for achieving design revisions and approvals for the project changes, allows for potential value adding without project or contractual impacts.

## IMPLICATIONS FOR FUTURE PROJECTS

Allowing a short period within the project timeframe for a value management dialogue can result in a project delivering more 'wins' for the community and within the scope tolerance of the project. Variations sought through value management can be positive when parties bring an open honest, and pragmatic approach to project and design management whilst focusing on a risk based solution.

## SUPPORTING INFORMATION

<https://www.lhib.nsw.gov.au/community/news/renewable-energy-future-lord-howe-island>

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