

Banksia Village

Embedded Network & Solar PV Cost Development

28 October 2016



Prepared for:

Bjorn Sturmborg on behalf of Banksia Village

Prepared by: Energy Action (Australia) Pty Ltd

Reference: PL - 07898

Quality Control

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1. Introduction

1.1 Overview

Banksia Village is located in Broulee NSW as shown in Figure 1 below. The village is a not for profit aged care facility consisting of a lodge, individual villas and common facilities. Tenants within the village enter into their own electricity supply agreements with licensed Energy Retailers and Banksia Village is responsible for contracting common area electricity supply.

The concept of establishing an embedded network would result in Banksia Village contracting electricity supply for the full facility and on-selling power to tenants within the centre. There is an arbitrage margin opportunity in on-selling electricity for Banksia Village as well as the opportunity to possibly offer tenants lower electricity prices than they could attain by contracting supply agreements themselves.

Incorporating a solar PV array into the project provides price risk benefits as well as secondary tenant engagement benefits and potential reduced common facility energy costs.

The value of the options above will be explored in the development of a business case for the proposed Embedded Network and Community Solar project.

1.2 Site Location

The Village location is shown in figure 1.



Figure 1 – Banksia Village Location

2. Scope of Work

2.1 Scope of Cost Estimate Report

The scope of work covered by this proposal includes:

- Site walk-through including review of current switchboards and meter panel setup;
- Review and verify from site visit marked up single line diagrams to confirm correct proposed modifications to switchboards and meter panels;
- Investigation of embedded network configuration costs;
- Review of Solar PV costs;
- Cash flow modelling of various tenant take-up options;

The outcome of this exercise will be a report presenting +/- 15% total project cost model of the following components:

- Switchboard(s) design, tender & procurement;
- Switchboard(s) modifications;
- Metering and Network fees;
- Turnkey installation and project management of embedded network and roof mounted solar PV system;
- Completed testing and compliance documentation;
- Tenant Sign up process;
- Facilitation of AER Approvals;
- Operation of data acquisition and billing processes.

Upon completion of the report, and as required by Banksia Village Energy Action will work with the appropriate stakeholders to develop and present the investment business case for the implementation of an Embedded Network by Energy Action.

2.2 Dependencies

In order to complete this study, Energy Action will require information from Banksia Village on the site's electrical configuration, energy usage and current energy costs. A summary of required information is provided below:

- Single Line Diagrams;
- Load profile data including consumption and peaks;
- Current energy invoices for base building NEMs;
- Site operating times;
- Tenancy register including m2 footprint per tenancy;
- Future expansion or other development plans for the site which may change current load profiles.
- 5-8 indicative tenant bills

3. Fee Proposal

3.1 Fixed fee

The fee covers the range of services offered in this proposal (design and installation cost development).

Progress Payment	Amount (AUD)
Sign Off	\$1,000 + GST
Submission of Final Report	\$3,000 + GST
TOTAL	\$4,000 + GST Plus travel costs

3.2 Exclusions

The fee proposed above excludes the following items:

- Sourcing of energy data and installation monitoring equipment. The costs of hire or purchase of any data logging or other monitoring equipment required for energy consumption monitoring, its installation or removal by qualified professional, or attendance on site by Energy Action staff for any purpose related to its installation or removal has been excluded from our fee.
- Design documentation
- Travel costs

3.3 Additional Work

For all work beyond the defined scope, our standard hourly rates apply as follows:

Staff Member	Hourly Rate
Director	\$300 + GST (\$330)
Senior Consultant	\$200 + GST (\$220)
Consultant	\$150 + GST (\$165)
Junior Consultant	\$100 + GST (\$110)

Disbursements for relevant travel, accommodation and incidentals associated with additional work are charged in addition to Energy Action's hourly rates.

4. Energy Action Capabilities and Key Personnel

4.1 Energy Action Capabilities

Energy Action is Australia's leading team of energy efficiency consultants, having conducted energy audits, project implementation and monitoring at hundreds of sites around Australia, New Zealand and Fiji during the last 15 years. Our consulting, audit, design review and commissioning experience ranges from walk-through to investment grade audits and implementations at sites such as Government and commercial buildings, hotels, offices, hospitals, telephone exchanges, mine and manufacturing enterprises. We take a practical, results based approach to all our work. This is exemplified through the technical advice we have provided to Energy Performance Contracts, where the savings are contractually guaranteed.

Exergy was acquired by Energy Action in March 2014 and is now part of Energy Action's Projects and Advisory division. Founded in 2000, Energy Action provides comprehensive energy services for its customers, including energy procurement, contract management and reporting, and energy efficiency projects and advisory services. Energy Action has provided energy management solutions for over 5,000 business customers and is listed on the Australian Stock Exchange. Energy Action has over 250 staff at offices across Australia and New Zealand. If successful in securing this project, Energy Action's Projects & Advisory division will be the entity engaged in delivering this project and related services.

The projects and Advisory team in Energy Action is expert in completing viability analysis for PV systems for all applications.

4.2 Energy Action Key Personnel

Within our Projects and Advisory team of energy efficiency consultants, we have our own in-house electrical, mechanical and renewable energy engineers.

The following key personnel have been identified for this project:

- **Graeme McMullan** (Projects and Advisory Services, Principal Engineering Consultant) Graeme will take the lead design review role on this project. Graeme is a qualified electrical engineer and licenced electrician, with substantial hands-on experience designing and installing solar, hybrid and other alternative energy systems.
- **Ed Hanna** (General Manager - Microgrids) Ed heads up Energy Action's 'Microgrids' division, and will lead the analysis and presentations around concept, approach and paybacks. Ed has

extensive experience in feasibility and project management of brownfield embedded network conversions, and all related requirements of a client that come with this.

5. Conditions of engagement

Unless otherwise agreed in writing by Energy Action, the conditions of contract for this work will be as described in AS 4122-2010: General conditions of Contract for Consultants, with no alterations or additions.

We trust that this proposal meets your requirements. Please feel free to contact us if there are any items that you wish to discuss further.

6. Acceptance Letter

The Client: Banksia Village ABN: 30 054 142 282
Site Address: 65-69 Heath St, BROULEE, NSW
Contact: C/O Bjorn Sturmberg Proposal Number: Version 1

By signing and returning this form to Energy Action (Australia) Pty Ltd, The Client accepts the scope of work and fee proposal as detailed in this proposal.

I, the undersigned, as the duly authorised representative of The Client accept the terms of engagement to be in line with the provisions of AS 4122-2010: General conditions of Contract for Consultants conditions without alteration or addition.

By signing this agreement The Client provides their consent to Energy Action (Australia) Pty Ltd to perform services with respect to the sites nominated above on the terms of engagement described above. Energy Action's liability to the customer for any loss, cost, charge or expense incurred or arising directly or indirectly under or in connection with this Agreement, whether for breach of this Agreement, at common law, under statute or otherwise is limited to the amount paid by The Client to Energy Action (Australia) Pty Ltd under this Agreement.

Signed on and behalf of:

Client Name

By

Signed: _____

Name: _____

Title: _____

Dated: _____