

Flinders Island Sustainability Plan:

Sustainability Overview

Prepared for: Flinders Council

Date: April 2012
Rev00

transport infrastructure | community infrastructure | industrial infrastructure | climate change



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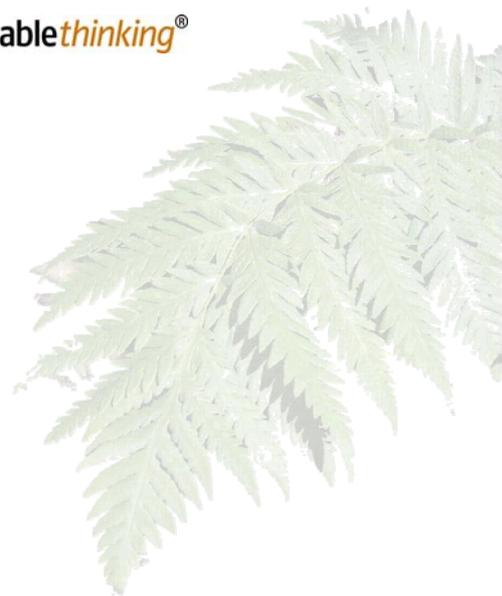


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1. Background and Context for the Project

1.1 Background

Flinders Council has contracted **pitt&sherry** to assist in developing a comprehensive Sustainability Plan for the municipality. The Sustainability Plan has two key components:

1. A Renewable Energy Plan, including a community supported vision to enable Flinders Island to reduce its reliance on diesel generated energy and see a substantial shift to the use of renewable energy; and
2. A Greenhouse Gas Minimisation Plan, including opportunities to reduce or offset greenhouse gas emissions by improving carbon sequestration opportunities, biodiversity enhancements and waste management practices.

The Sustainability Plan will be supported by a submission to the Federal Government for whole or partial funding of the required infrastructure.

This document outlines the relationship between the component parts and helps to set the scene for understanding the outcomes of the planning and consultation process.

2. Purpose

Flinders Island is located in Bass Strait between the North Eastern tip of Tasmania and Wilson's Promontory in Victoria. Flinders Island comprises 1333 square kilometres of spectacular beaches, mountains, native bush and productive agricultural land. The Island's 800 residents are engaged in the tourism, service, agricultural and fishing industries. Flinders has significant potential for growth - in agricultural production, as a destination for 'sea changers' from Melbourne, and especially in tourism. Only around 4000 tourists visit Flinders each year - the Island is one of Australia's almost undiscovered jewels.

The six overarching goals of the Council and community are:

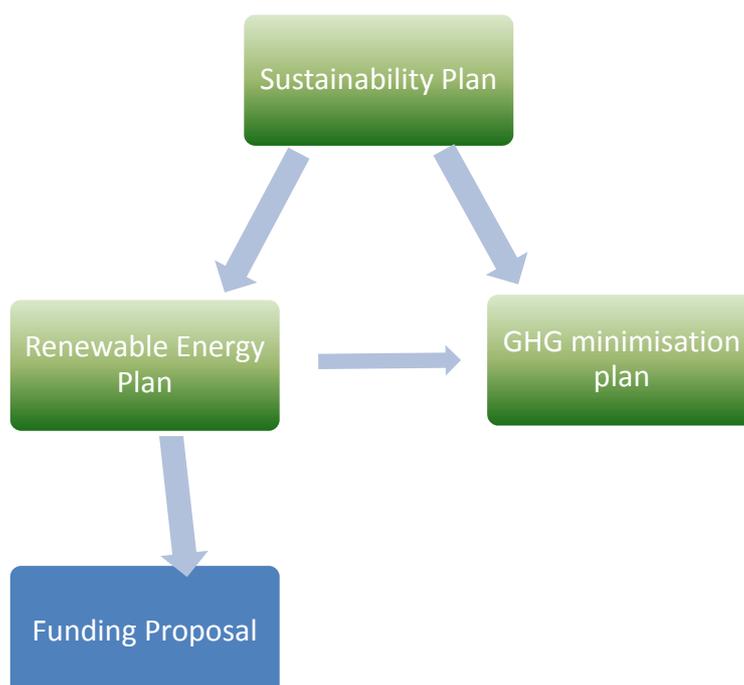
- 1) *Expand the productive capacity of Flinders Island.* The Council aims to help capture the potential to increase the productivity of its tourism and agriculture industries - both of which require reliable, secure, and affordable energy.
- 2) *Diversify Flinders Island's economic capabilities.* Presently, the economy is predominately based around agriculture. The Council will continue to support the agricultural industry, however it realises the potential for tourism to become a substantially larger part of Flinders' economy. A shift to renewable, locally produced energy will provide energy sufficient to meet increased demand and is *the* foundation of a compelling tourism brand and product.
- 3) *Build on Flinders Island's competitive advantages.*
 - Flinders first competitive advantage is stunning and varied scenery - as mentioned above this advantage against other tourist destinations hasn't yet been pressed home.
 - The second advantage is productive agricultural land together with a relatively mild climate.
 - The third advantage is world class (in the top 1% globally) wind resources.
 - The fourth advantage is topography. The proposed hybrid wind and sea water hydro system harnesses Flinders' wonderful wind resource and uses the combination of coast and mountains to present a solution to the key challenge in renewable electricity systems - storage. The resulting energy will allow the first two advantages to be pressed home to the benefit of the region.

- 4) *Develop Flinders Island and contribute to the North East Tasmanian region.* Flinders receives financial support from the Tasmanian and Australian mainland communities - not least in subsidised power costs. The Council seeks to develop Flinders in order to move to self-sufficiency, contribute more to the greater NE Tasmanian economy, and provide a rewarding experience for Australians wanting a unique holiday experience. Local generation of electricity is required to attain this goal.
- 5) *Reduce Flinders' Greenhouse Gas emissions.* The Council seeks to move Flinders rapidly into the low carbon economy to take early advantage of economic and environmental benefits. A shift to 100% renewable electricity will result in hugely reduced emissions.
- 6) *Improve quality of life* - the foundation goal of the Council is to improve the quality of life of Flinders Islanders. While the noise and air pollution associated with the diesel power station are not intolerable, clean energy sources will remove these tangible disadvantages of the current system. More importantly, progress on the five goals listed above will improve the quality of life of Flinders Islanders for generations to come - self sufficiency, opportunity, economic and environmental sustainability will all be improved by a move to a 100% renewable electricity system.

Flinders Island Council has developed an Integrated Development Strategy aimed at securing genuinely sustainable growth. The Strategy will guide the development necessary to give the Flinders Island economy the strength and resilience necessary to sustain a flourishing and socially cohesive community for generations to come while ensuring the pristine environment remains just that.

The Council commissioned **pitt&sherry** to develop two major components of sustainability - a Renewable Energy Plan and a Greenhouse Gas Minimisation Plan for Flinders Island. These plans are related, particularly noting that a reduction in non-renewable energy usage on the island has an important impact on Flinders' greenhouse goals.

Both plans incorporated consultation with Council and the Flinders community, as well as key stakeholders in Hydro Tasmania, Aurora Energy and the Tasmanian Government. The relationship between the components is shown in the diagram below. The proposal for funding is the culmination of the major renewable energy stream.



3. Sustainability Decision Making

While the project brief is focussed on renewable energy and greenhouse gases (GHG's) it is notable that the decisions between options in each plan have a broader dimension. This broader dimension is driven by the three components of sustainability. The three components of sustainability compose what is typically called a "triple bottom line (TBL) assessment and are generally labelled:

- Environmental
- Social
- Economic

These are sometimes also referred to as the three P's - People, Planet & Profit.

Amongst the central tenets of sustainability is the aim that all three should be considered and workable in a given solution, and in this case both social issues and economic issues have been part of the planning and consultation process. To a large degree the two plans arising from this project brief appear to be focussed on the environment. The funding proposal nonetheless is an outcome primarily of an economic assessment of the plan, as are a number of the choices made within both plans.

Two poignant examples of this are:

- The dominant source of GHG's is shown to be agriculture. This is not from fuels consumed on farms, but from the ruminant digestive processes of the farm animals themselves. The only material means of reducing this is to farm different animals. Some effect can be made by substituting sheep for cows, but real change for example requires something more significant such as farming kangaroo rather than beef. The market for kangaroo however is limited, as are the associated processing and logistic streams. Community consultation concluded that while this change might benefit the environment, the economy would suffer significantly. Hence the community made a decision to support action in other areas where they felt the mooted change would be sustainable from an economic perspective.
- In all matters the community considered employment prospects as part of their consideration in planning or choosing between different options. For most this was not an economic consideration, but one driven by an understanding of the dynamics of living in a small community - the need to provide a productive lifestyle and a productive environment for the younger members of their society. There was a deep understanding of the need for socialisation amongst the youth of Flinders Island, preferably with an increase in youth numbers, reflecting the social perspective. Option 3 of the renewable energy plan for instance involves a cable supplying electricity from the north east tip of Tasmania. An import-only cable would supply electricity without the need for the island generation infrastructure and this would remove current employment associated with managing power on the island. A sustainable cable solution therefore would only be sustainable if it provided for export of generated power on the island, and hence employment prospects contributing to social outcomes.

Hence the chosen priority of outcomes in the associated plans reflects these as well as other similar examples.

4. Projections to 2030

An essential component of future planning is having some idea of what the future demands may look like. Given uncertainties, a scenario planning approach is taken to the plans. The purpose of these scenarios is not to be prescriptive or to make forecasts, but rather to illustrate the consequences of different plausible futures for Flinders Island.

Three scenarios are used. These are:

- Business as Usual (BAU)
- 'Stepped up growth' - Scenario A
- 'Stepped up growth' - Scenario B

Briefly the BAU case follows population projections taken from a December 2008 Tasmanian Demographic Change Advisory Council (DCAC) produced series of population projections for each Tasmanian municipal area out to 2032.

Scenarios A and B were based in part on community and industry discussions held as part of the consultation process and both include an allowance for increased growth.

The key assumptions underpinning Scenario A include, first, a significant expansion in agricultural activity on the Island. We assume that from FY2013, 1000 acres (404 ha) are irrigated, for example to enable an expansion of beef and lamb production for export. We then assume that the area under irrigation increases 5% every year to 2030. We also assume for Scenario A that an additional 10 new houses are built annually, over and above those that are expected to be built under BAU. By 2030, this scenario implies that there would be some 625 houses and 1,050 residents on the Island, compared with some 530 houses and just over 900 residents under BAU. The new houses are assumed to be 5 star as required under current Tasmanian law.

Scenario B makes the same assumptions as Scenario A with respect to stepped up agricultural production, but tests the impact of adding 20 houses per year, above those expected under BAU, along with the additional commercial sector demand this would pull through. In Scenario B, the total housing stock would reach 804 houses in 2030, while the resident population would be around 1,350 persons.

The individual effects of these scenarios are explored (and explained) in more detail in the associated plans.

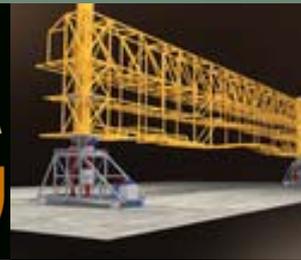
5. Outcomes

Flinders Island possesses world-class wind and tidal resources and also has excellent solar resources, along with biomass and waste streams that could be used for energy production. There is the potential for Flinders Island to meet 100% of its electricity needs from renewable, zero carbon sources. Indeed, the potential also exists, over time, to replace other fuel consumption (such as transport fuels) with renewable energy, or even to consider exporting renewable energy to Tasmania and/or the mainland.

This natural advantage feeds directly into an encouraging outcome for the greenhouse gas plan and, when combined with other components of that plan make for a very significant while plausible reduction in the Island's GHG footprint.

The two plans and the associated funding proposal outline the way in which these measures achieve not only environmental outcomes, but also social and economic outcomes that will contribute to the long term sustainability of Flinders Island.

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