

3.02 STEWART ISLAND WIND POWER

PGF Application		For: Approval	
Applicant:	Southland District Council	Pipedrive ID #	Commercial Information
Entity Type:	Local Authority	PGF Funding Sought:	Commercial Information
Region	Southland	Total Project Cost:	Commercial Information
Tier:	3 - Infrastructure	Co-contribution rate:	0%
Sector:	Energy	Funding Structure:	Commercial
<p>We recommend that the IAP:</p> <p>a) Note that the PDU recommend that the PGF fund (Commercial Information) towards Stewart Island Wind Power as a 4-tranche funding structure with payment on completion and agreement to progress at the following milestones:</p> <ul style="list-style-type: none"> • Stage 1: Land agreements obtained • Stage 2: DOC Concession and required consents (RMA) obtained • Stage 3: Final Investment Decision • Stage 4: Construction Phase <p>b) Note the generation of electricity on Stewart Island is currently delivered via five diesel generators and therefore the compelling reason to make this investment are the clear environmental gains.</p> <p>c) Note with the cost of diesel increasing, it is not sustainable for Stewart Island to keep operating diesel generators which consume approximately 360,000 litres of diesel per annum.</p> <p>d) Note that the Council is proposing to introduce 2 wind turbines through this application; there is an anticipated decrease in diesel consumption of 150,000 litres per annum providing both economic and environmental benefits.</p> <p>e) Commercial Information</p> <p>f) Note the application meets the PGF criteria as outlined further in this assessment.</p>			
<p>Proposal:</p> <p>PGF funding is required for the Southland District Council to:</p> <ol style="list-style-type: none"> 1. Commission independent consultants to undertake pre-development activity including an economic analysis, 			

- the procurement of resource consents, further geotechnical work, and securing land access agreements.
- Construct and install two wind turbines initially on Stewart Island upon completion of the development activity.

Assessment against the PGF criteria

Eligibility Criteria

This application is eligible for PGF funding.

Productivity Potential

Maintaining electricity at an affordable price and putting resilience into the electricity network is essential to ensuring current economic activity levels in Stewart Island, and to working towards increasing economic activity. The current approach to providing electricity is not sustainable as outlined below.

How is power supplied to the Island currently?

- Rakiura/Stewart Island currently generates its electricity using diesel generators located at a central power station on the island as there is no power supply link with the mainland.
- The amount of diesel required to power the five diesel gensets at the central power station is approximately 360,000 litres annually.
- Despite increasing demand, upgrades to more efficient generators have to date enabled the level of diesel use to remain relatively flat. However, the increasing cost of fuel and required infrastructure renewals will contribute to the kWh unit rate for electricity increasing overtime.

Who uses the power?

- Rakiura/Stewart Island has about 460 electricity connections to its network and 380 permanent residents living in 150 households.
- With the permanent population of 380 people and, as of June 2018, annual visitor numbers of approximately 45,000, there is a visitor to resident ratio close to 117 : 1.

How much do locals pay for power?

- The current kWh (unit) cost is \$^{Commercial} c/kWh which is about ^{Commercial} per cent more than power on the mainland.
- Of the \$^{Commercial} c/kWh, the cost of the diesel only portion of the electricity cost is \$^{Commercial} c/kWh. The remaining \$^{Commercial} c/kWh covers the operations and maintenance costs of running the diesel gensets and distribution network.

How can the locals afford to pay the current unit cost?

- The high unit cost for power on the island is currently being kept at a more affordable rate of \$^{Commercial} c/kWh through a subsidy. The Stewart Island Electricity Supply Authority (SEISA) is using its current cash reserves to keep the unit cost at \$^{Commercial} c/kWh, however, even at this level it is still three times the cost of electricity on the mainland.
- Data provided to MBIE from Southland District Council (sourced from the 2013 census) showed that 64 per cent of permanent resident's household income was less than \$70,000. Therefore any further unit cost

increase would be detrimental to the community.

10. Though the unit cost is currently reduced through the SIESA subsidy, this is not able to be maintained indefinitely. **Commercial Information**

What will happen if the SEISA cash reserves run out?

11. This would lead to power becoming unaffordable for a number of households on the island, and the risk that households may go off the grid to generate power which in turn will further increase the unit rate to the remaining customers.

So what has been done to investigate reducing electricity costs?

12. In 2016, Southland District Council commissioned a report to assess the different power supply options for the island, including local wind, local hydro, and cables to connect to the mainland power supply.
13. Each of the options explored had varying degrees of benefits and costs, including capital costs to implement, and logistical constraints on physically establishing the infrastructure, for example a hydro site in the national park.

MBIE commissioned **Commercial Information** to further investigate wind power options on the island and to provide a report outlining the impacts of wind power on electricity costs.

Policy objectives and regional priorities

1. The price of electricity for Stewart Islanders is far higher (**Commercial**%) than the rest of New Zealand. The prices are so high that they are constraining economic development.
2. Prices will increase when the SEISA cash reserves run out. This would lead to power becoming unaffordable for many households and commercial operators. This will lead to a contraction of economic development as Islanders have less money to spend, and businesses cannot afford to continue running.
3. Maintaining electricity at an affordable price is essential to ensuring current productivity levels in Stewart Island, and to working to increase productivity.
4. There is currently a moderate risk of oil spill from the diesel generators. This would considerably impact the main industries of tourism and oyster farming. Therefore economic resilience of Stewart Island will be considerably improved through this investment.
5. It is also not a commercial wind farm. Therefore this investment sits more in the enabling infrastructure tier, so the energy paper (which is about tier two investments) doesn't apply.
6. In March 2018, a Rakiura/Stewart Island community development plan was established by Southland District Council in consultation with the Stewart Island community. The report outlined that sustainable, affordable electricity was a top priority for the community.

PGF Criteria	Assessment Commentary	Rating (0✓ to 5✓)
Link with fund and government outcomes (note comments below relate to the end state project of installing wind power on Stewart Island)		
Creates permanent jobs	<ul style="list-style-type: none"> As above – will not directly create jobs, but is critical to maintaining the economy on Stewart Island including retaining the strong aquaculture and tourism Sectors that are important for the community. 	✓✓✓
Delivers benefit to the community	<ul style="list-style-type: none"> As above – critical for community survival 	✓✓✓
Increased utilisation and returns of Maori asset base	<ul style="list-style-type: none"> N/A 	N/A
Enhanced sustainability of natural assets	<ul style="list-style-type: none"> Will utilise wind, a natural asset. 	✓✓✓
Mitigation of climate change effects	<ul style="list-style-type: none"> Will shift from 100% carbon emitting derived electricity to predominantly zero carbon emission electricity. 	✓✓✓✓✓
Additionality		
Additionality	<ul style="list-style-type: none"> Council and the community are not in a position to fund the development stage of the project. The analytics supporting the PGF application will provide a degree of insight as to what extent the community can service some of the capital required for construction. 	✓✓✓
		✓✓✓
Connected to regional stakeholders and frameworks		
Alignment with regional priorities	<ul style="list-style-type: none"> Refer to Policy objectives and regional priorities section. 	✓✓✓✓
Support from local governance groups (inc. Councils, Iwi/Hapu)	<ul style="list-style-type: none"> Applicant is the Southland District Council. Community supports this initiative. 	✓✓✓✓
Governance, risk management and project execution		
Robust project management and governance systems	The Council will oversee the project and utilise existing project management, governance and risk management systems.	✓✓✓
Risk management approach		✓✓✓
Future ownership / operational management	<ul style="list-style-type: none"> Will be considered as part of the next stage of the project. 	✓✓✓

Analysis of the benefits and costs			
This will be part of the project.			
Consultation undertaken or implications:			
N/A			
Due Diligence and Ownership			
The Applicant is a local authority and due diligence is not required. The PDU utilises information prepared by DIA.			
Financial Analysis of the Applicant			
The Applicant has demonstrated it is capital constrained through its capital and operating commitments as well as its contingent liabilities from their balance sheet. The community is not in a position to provide funding at this stage.			
Risk Assessment			
The key risks to the PDU and proposed mitigations of this investment are as follows:			
Type of risk	Risk description	Mitigations	Risk Rating L/M/H
Cost Risk	If the cost estimate is inaccurate, then the applicant may seek further funding, or be unable to complete the project in the agreed manner.	<ul style="list-style-type: none"> Ensure the quote from Commercial Information is accurate before release of funding. The requested PGF investment also assumes there is no co-funding. However, there will be investigation into an infrastructure partner during the development of the project to reduce PGF investment. 	Low (post mitigation)
Land access	Access rights for required land are not able to be secured, or are only able to be secured for land that has other attendant risks and costs that compromise project viability	Securing land access is the first milestone. PGF exposure is therefore limited. Commercial Information	Low
Department of conservation land	Some of the identified land sites include DOC land. Sufficient access rights for the DOC land may be difficult or impossible to obtain in a timely manner.	Securing DOC land access rights is the second milestone. The DOC land is stewardship land not conservation land. Not all identified sites include DOC land. DOC will be involved during the development process as appropriate.	Low

Funding Methodology	
Grant	
Supporting proposal:	Yes
Appendices:	Yes – application
Manager / Author of paper:	LY/MP – Investment Team
Communications issues and risks	N/A

PROACTIVELY RELEASED