



BRIEFING

PGF Energy Project Update

Date:	7 November 2019	Priority:	Medium
Security classification:	In Confidence	Tracking number:	1328 19-20

Action sought		
	Action sought	Deadline
Hon Grant Robertson Minister of Finance	Note the contents of this briefing	7 November 2019
Hon Phil Twyford Minister of Transport Minister of Economic Development		
Hon David Parker Minister for Trade and Export Growth		
Hon Shane Jones Minister for Regional Economic Development		
Fletcher Tabuteau Parliamentary Under-Secretary to the Minister for Regional Economic Development		

Contact for telephone discussion (if required)				
Name	Position	Telephone		1st contact
David van der Zouwe	Head of Investment Management,	Privacy of natural persons	Privacy of natural persons	✓
Jason Hall	Investment Director, Investment Management	Privacy of natural persons	Privacy of natural persons	

Minister's office to complete:

Approved

Declined

Noted

Needs change

Seen

Overtaken by Events

See Minister's Notes

Withdrawn



BRIEFING

PGF Energy Project Update

Date:	7 November 2019	Priority:	Medium
Security classification:	In Confidence	Tracking number:	1328 19-20

Purpose

This briefing provides you with an update on the status of priority Provincial Growth Fund (PGF) energy projects.

Recommended action

The Provincial Development Unit (PDU) recommends that you:

- a **Note** the contents of this briefing

Noted

David van der Zouwe
Head of Investment Management,
 Provincial Development Unit, MBIE

..... / /

Hon Grant Robertson
Minister of Finance

..... / /

Hon Phil Twyford
Minister of Transport
Minister of Economic Development

..... / /

Hon David Parker
Minister for Trade and Export Growth

..... / /

Hon Shane Jones
Minister for Regional Economic Development

..... / /

Background

1. On 23 September 2019, the Deputy Prime Minister, and the Ministers for Regional Economic Development, Trade and Export Growth, Energy and Resources and Climate Change met to discuss the PGF's strategy for energy investment. This briefing provides you with a summary of what was discussed and agreed upon at this meeting, as well as additional information that was requested at the meeting.

Energy policy background

2. Budget 2019 allocated \$40 million from the PGF for investment in energy projects. On 24 June 2019 Regional Economic Development (RED) Ministers identified priorities for this allocation (Sector Investment Briefing 3942 18-19 refers). These priorities focussed on opportunities in hydrogen development and securing the renewable energy supply for New Zealand's populated off-shore islands. The key objectives of the Government's energy strategy are to achieve 100% renewable electricity by 2035 and a zero net carbon economy by 2050.
3. PGF priorities for energy investment are framed in the PGF position paper on energy investment '*Energy and the PGF*'. The key objectives of PGF investment in energy projects are to create new job opportunities, maximise labour redeployment opportunities in the case of sunset industries, and to strengthen the capital infrastructure of New Zealand's energy sector. The PGF will prioritise investment in clean energy technology infrastructure in regions that have natural advantages in energy, ideally building on previous private investment to accelerate growth.

Hydrogen investment

4. In line with '*Energy and the PGF*', priority projects for investment are green hydrogen, geothermal and waste-to-energy projects. Green hydrogen is produced using 100% renewable energy to split water into hydrogen and oxygen through electrolysis.
5. The key advantage of these projects is their sustainability benefits and in particular the contribution they would make to the goal of transitioning New Zealand to 100 per cent renewable energy over the longer term.
6. Green hydrogen projects do not fit strongly with the key PGF criteria of employment and productivity and currently do not demonstrate a high likelihood of being economically sustainable as they usually do not have a proven market demand.
7. It should also be noted that none of these projects are likely to be completed within the timeframe of the PGF, and some may not even break ground within the life of the fund.
8. There is a strong view amongst key market participants that green hydrogen could form a sustainable part of the transportation energy mix going forward together with electric vehicles (EV). Its zero emissions credentials and ability to solve for longer range transportation applications are widely accepted. This is a key challenge that cannot be easily delivered by EV solutions.

Intervention is needed to move green hydrogen to commercialisation

9. Despite the potential advantages, green hydrogen related projects will struggle to raise the capital needed to transition from the research and development stage to commercialisation due to:
 - a. The risk profile of emerging clean energy technology and newer or cheaper technology potentially displacing early adopters at a lower cost.


- b. The additional cost of development being significantly in excess of the economic benefit.
 - c. The limited legislative incentives for development.
 - d. The limited market that exists for green hydrogen because existing industries would have to adapt their approach to utilise this fuel/energy source.
10. As a result the applications to the PGF are in most cases attached to existing businesses that have an offtake for the green hydrogen. The requests note they will require significant support **Commercial Information** to transition to a greener approach. This is the cost of delivering a 100% renewable approach, in advance of the market reaching a mature state.

PDU suggested approach to green hydrogen investment

11. The PGF approach to commercial investment would be to typically fund entities with loan finance, taking a commercial approach. However, for the reasons detailed above the applicants have all represented they will need a fairly significant level of subsidy to transition to green hydrogen.

12. The PDU suggest the following approach to deliver the Energy priorities:


Commercial Information




14. The PDU is cognisant of treating all applicants uniformly, but we will also have to assess the different commercial models and co-funding capacity to deliver a workable solution.

15. The following table provides an update of the projects and their expected timeframes for approval by RED Ministers:

Commercial Information



PGF \$40m energy allocation

16. Given the likely placement of the Commercial Information project on hold, the current total expected spend on hydrogen related projects equates to \$ Commercial Inform allowing the total spend to remain within \$40m.
17. **Commercial Information**


Ministerial questions regarding hydrogen projects

18. Commercial Information

[Redacted]

19. The PDU was also directed to investigate further aspects of these projects to inform Ministers decision making. These aspects were as follows:

- Confirm that the scaled down approach to investment that has been proposed is possible and ensure that a minimum viable product will be achieved with these levels of investment.

Response: Commercial Information

[Redacted]

- Interrogate if electrolyzers for all Commercial In projects can be purchased together in order to achieve economies of scale.

Response: There would be resistance to this as some projects have identified key suppliers. However, they agreed on the benefits of working together and this approach will be followed.

- Confirm when these projects will be shovel ready

Response: As these projects are at the early stage, consents still need to be applied for some elements of the projects and equipment has long lead times. Notwithstanding this, long lead time orders would be placed and some elements of the construction could start before Commercial Information .

Wind investment questions

20. Ministers also asked PDU officials to test why Commercial Information , and report back on the price disparity.

Response: Commercial Information

[Redacted]

Next steps

21. The PDU has prepared the Commercial Information for the IAP and will revert to RED Ministers with advice on this project in December.