Submission on the *Gas Transitions Plan Issues Paper*

Name	
Organisation (if applicable)	Taranaki Offshore Partnership
Contact details	

Release of information

Please let us know if you would like any part of your submission to be kept confidential.

☐ I would like to be contacted before the release or use of my submission in the summary of submissions that will be published by MBIE after the consultation.

☐ I would like my submission (or identified parts of my submission) to be kept confidential, and **have stated below** my reasons and grounds under the Official Information Act that I believe apply, for consideration by MBIE.

I would like my submission (or identified parts of my submission) to be kept confidential because n/a

[To check the boxes above: Double click on box, then select 'checked']

Consultation: Advancing New Zealand's energy transition

Energy and Resource Markets
Building, Resources and Markets
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Attention: Gas Transition Submissions

Submission on 'Gas Transitions Plan Issues Paper' discussion document

Taranaki Offshore Partnership (*TOP*) is a Joint Venture between NZ Super Fund (*NZSF*) and Copenhagen Infrastructure Partners (*CIP*) that is investigating offshore wind generation opportunities in Aotearoa New Zealand.

We appreciate the opportunity to provide a submission on the Ministry of Business, Innovation and Employment's (*MBIE*) discussion document 'Gas Transitions Plan Issues Paper'.

This letter provides background information regarding TOP and our Joint Venture parties. TOP is a Joint Venture between NZSF and CIP:

- Founded in 2012, Copenhagen Infrastructure Partners P/S today is the world's largest dedicated fund manager within greenfield renewable energy investments and a global leader in offshore wind. The funds managed by CIP focuses on investments in offshore and onshore wind, solar PV, biomass and energy-from-waste, transmission and distribution, reserve capacity, storage, advanced bioenergy, and Power-to-X. CIP manages ten funds and has to date raised approximately EUR 19 billion for investments in energy and associated infrastructure from more than 140 international institutional investors. CIP will accelerate its role in the global energy transition and aim to have EUR 100 billion under management in green energy investments in 2030. CIP has approximately 400 employees and 11 offices around the world. For more information, visit www.cip.dk
- The NZ Super Fund was set up to help the Government meet the future costs of national superannuation. The Fund's assets, which are currently worth more than $NZ60 billion and include some $NZ7.5 billion invested in Aotearoa New Zealand, are owned by the Crown on behalf of all New Zealanders, but the fund manager operates on a commercial basis, independently of the Government. The Fund's partnership with CIP on the South Taranaki Project reflects its commitment to exploring commercially attractive investment opportunities in New Zealand infrastructure and sits alongside its existing €125 million commitment to CIP's globally-focused Energy Transition Fund. For more information, visit https://nzsuperfund.nz/

- Copenhagen Offshore Partners (COP) is the exclusive global offshore wind development partner to CIP, including for projects in Aotearoa New Zealand.

Our Submission

The attached submission provides our views on the questions raised in the Discussion Document. Contact details for our team (as well as confirmations regarding the release of information) are included in the submission.

We are available to assist in any way with MBIE's work and would be happy to provide further information and/or meet with officials to discuss the matters covered in this submission.

Responses to questions

	Chapter 2: Transitioning our gas sector
1	**How can New Zealand transition to a smaller gas market over time?**
	We have no comments on this question.
2	**What is needed to ensure fossil gas availability over the transition period?**
	We have no comments on this question.
3	**What factors do you see driving decisions to invest or wind down fossil gas production?**
	We have no comments on this question.
4	**Does the Government have a role in enabling continued investment in the gas sector to meet energy security needs? If yes, what do you see this role being?**
	We have no comments on this question.
5	**Does the Government have a role in supporting vulnerable residential consumers as network fossil gas use declines? If yes, what do you see this role being?**
	We have no comments on this question.
	Fossil gas and electricity
6	**What role do you see for gas in the electricity generation market going forward?**
	Gas could be a source of peaking and firming generation in future, as the proportion of variable renewable generation increases in the electricity sector. In this case, gas would support a diverse portfolio of renewable electricity generation sources, including offshore wind.
7	**What would need to be in place to allow gas to play this role in the electricity market?**
	We have no comments on this question.
8	**Do you think gas can play a role in providing security of supply and/or price stability in the electricity market? Why / Why not?**
	We support the industry working with regulators to develop measures that encourage an orderly transition of baseload fossil plant as necessary. An orderly transition supports investor confidence to bring required renewable assets online.

9	**Do you see alternative technology options offering credible options to replace gas in electricity generation over time? Why / Why not?** The Aotearoa New Zealand energy market will require a combination of different technologies to deliver on its energy transition objectives. A diversified portfolio of renewable electricity generation sources will serve us well in future for much of our energy requirements. Offshore wind has many benefits, and its characteristics mean that it can be considered as 'quasi-baseload': • A higher capacity factor and wind speeds than onshore wind, requiring less geographic surface area and turbines to deliver more generation. We expect a capacity factor of over 50 percent in the South Taranaki Bight, 1.5 times higher than the onshore portfolio average. • Generation patterns that will align with periods of elevated demand. Our modelling suggests that the generation from a South Taranaki offshore wind farm would be marginally higher during spring and winter months, when demand in the country tends higher. • Power generation at scale to support and encourage large scale industrial decarbonisation as well as new energy-intensive energy vectors such as green hydrogen. • Diversification benefits for New Zealand's grid. Our analysis suggests there will be a relatively low degree of correlation (less than 50 percent on average) with the onshore portfolio, providing energy security benefits for the system. Our modelling also shows the correlation with onshore wind appearing to drop to around 40 percent during peak demand hours. Additionally, if there was a portfolio of offshore wind generation across the country, generation would be negatively correlated to hydro inflows. These 'quasi-baseload' characteristics mean that offshore wind would offer an alternative to gas electricity generation in many situations.
10	**If you believe additional investment in fossil gas infrastructure is needed, how do you think this should be funded?** We have no comments on this question.
Chapter 3: Key issues and opportunities	
	Renewable gases and emissions reduction technologies
11	**On a scale of one to five, how important do you think biogas is for reducing emissions from fossil gas? Why did you give it this rating?** Biogas can be produced from existing sources (e.g. landfill gas capture, agricultural residues, organic residues) and at a reasonable scale in New Zealand (as already investigated by Firstgas and others). Biogas could then be used for peaking and firming in the electricity sector, if produced at scale. Technologies such as offshore wind may require firming generation, so biogas electricity generation could be used for this purpose.

	Do you see biogas being used as a substitute for fossil gas? If so, how?
12	Biogas could be used for peaking and firming in the electricity sector, if produced at scale. Technologies such as offshore wind may require firming generation, so biogas electricity generation could be used for this purpose.
	On a scale of one to five, how important do you think hydrogen is for reducing emissions from fossil gas use? Why do you think this?
13	Hydrogen is not a direct replacement for fossil gas, due to the difference in infrastructure requirements. There are also inefficiencies in the hydrogen generation process and the need to build renewable electricity infrastructure at the same time to enable green hydrogen production. However, hydrogen has good potential to be used for generating industrial process heat and industrial feedstock demand currently met by fossil gas.
	Do you see hydrogen being used as a substitute for fossil gas? If so, how and when?
14	We consider there is a strong case for industrial use: process heat and feedstocks. For domestic use, it is more challenging to supply hydrogen in large amounts without changing large amounts of infrastructure. The general public may have more concerns around the safety of hydrogen than industrial users.
	What else can be done to accelerate the replacement of fossil gas with low-emissions alternative gases?
15	Clarify the role for low-emissions gases in supporting variable renewable electricity generation at a large scale, such as supporting offshore wind generation. Understand the infrastructure requirements for low-emissions gases and work to adapt existing gas infrastructure (where appropriate) as quickly as possible.
16	**On a scale of one to five how important is a renewable gas trading to supporting the uptake of renewable gases? Why have you given it this rating?**
	We have no comments on this question.
17	**What role do you see for the government in supporting such a scheme?**
	We have no comments on this question.
	Carbon Capture, Utilisation and Storage
18	**On a scale of one to five how important do you think CCUS is for reducing emissions from fossil gas use? Why did you give it this rating?**
	We have no comments on this question.

19	**What are the most significant barriers to the use of CCUS in New Zealand?**
	We have no comments on this question.
20	**Do you see any risks in the use of CCUS?**
	We have no comments on this question.
21	**In what ways do you think CCUS can be used to reduce emissions from the use of fossil gas?**
	We have no comments on this question.
	Options to increase capacity and flexibility of gas supply
	What role do you see for gas storage as we transition to a low-emissions economy?
22	Gas could be a source of peaking and firming generation in future, as the proportion of variable renewable generation increases in the electricity sector. In this case, gas would support a diverse portfolio of renewable electricity generation sources. Gas storage would be a way of securing resource for this use.
23	**On a scale of one to five, how important do you think increasing gas storage capacity is for supporting the transition? Why did you give it this rating?**
	We have no comments on this question.
24	**What should the role for government be in the gas storage market?**
	We have no comments on this question.
25	**Our position is that LNG importation is not a viable option for New Zealand. Do you agree or disagree with this position? If so, why?**
	We agree, with New Zealand's abundant renewable energy sources and decarbonisation ambitions, it appears that LNG importation would not be necessary.
26	**What risks do you anticipate if New Zealand gas markets were tethered to the international price of gas?**
	We have no comments on this question.
General comments	
We have no further comments.	