

Submission template

Consultation on Energy Demand and Generation Scenarios (EDGS) 2023

This is the submission template for responding to the consultation document on the Energy Demand and Generation Scenarios (EDGS) 2023. The Ministry of Business, Innovation and Employment (MBIE) seeks your comments by **5pm on Monday, 22 May 2023**.

Please make your submission as follows:

Fill out your details under the **Contact details** section and, if applicable, check the boxes underneath on privacy and confidentiality.

Fill out your responses to the discussion document questions in the section: **Responses to questions**. Your submission may respond to any or all of the questions. Where possible, please include evidence to support your views, for example references to independent research, facts and figures, or relevant examples. If you would like to make other comments not covered by the questions, please provide these in the **Additional feedback** section.

Before sending your submission:

- a. delete this first page of instructions; and
- b. if your submission contains any confidential information, please:
 - State this in the cover page or in the e-mail accompanying your submission, and set out clearly which parts you consider should be withheld and the grounds under the Official Information Act 1982 (OIA) that you believe apply. MBIE will take such objections into account and will consult with submitters when responding to requests under the OIA.
 - Indicate this on the front of your submission (e.g. the first page header may state “In Confidence”). Any confidential information should be clearly marked within the text of your submission (preferably as Microsoft Word comments).

Submit your submission by emailing this template as a Microsoft Word document to energyinfo@mbie.govt.nz with **EDGS 2023** in the subject line by **5pm on Monday, 22 May 2023**

Please direct any questions that you have in relation to the submissions process to energyinfo@mbie.govt.nz.

Release of Information

Please note that submissions are subject to the OIA and may, therefore, be released in part or full. The Privacy Act 2020 also applies. MBIE intends to publish a compiled list of next steps on our website at www.mbie.govt.nz. Should you agree to having quotes from your submission included in the next steps, we will ensure that all parts of your submission included does not refer to any names of individuals.

Submission on the Energy Demand and Generation Scenarios (EDGS) 2023

Contact details

| | |
|------------------------------|-------------------------------|
| Name | Privacy of natural persons |
| Organisation (if applicable) | Taranaki Offshore Partnership |
| Contact email address | Privacy of natural persons |

Privacy statement

We collect your personal information (name and email address), in order to identify stakeholders and contact you (if you agree). Providing some information (such as your organisation) is optional, however if you do not provide this information, we may not be able to link your response to the organisation you are representing. We advise caution on the use of free-text boxes, please do not provide more personal information than is required for the purposes of this consultation.

Besides our staff, we may share this information in line with the Privacy Act 2020 or as otherwise required or permitted by law. We keep your information safe by storing your data in folders with limited access. If this information is shared or published, we may need to edit comments to remove personal information.

This information will be held by MBIE. You have a right to ask for a copy of any personal information we hold about you as a result of this consultation, and to ask for it to be corrected if you think it is wrong. If you'd like to ask for a copy of your information, or to have it corrected, please contact us at energyinfo@mbie.govt.nz.

Release of information

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

- I agree to be contacted by MBIE about any points I have raised or obtain more information about the content of my submission.
- I agree to having quotes from my submission included in the compiled list of next steps.
- I would like to be contacted before the release or use of my submission in the compiled list of next steps 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... [Insert text] |
|---|

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

Responses to questions

Instructions for completing this submission template:

- Check relevant box by double clicking on the box, then select 'checked'
- Some questions have sub-parts
- Add any additional comments
- Respond to any or all questions as relevant

| Introduction | |
|--------------|---|
| 1 | <p>a) Do you agree with the stated purpose of EDGS? (Please select one)</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know</p> <p>b) Why, or why not?</p> |
| 2 | <p>How do you use EDGS?</p> <p>For information, as an input into project planning</p> |
| 3 | <p>a) Do you agree with the frequency of the EDGS? (Please select one)</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (please elaborate below) <input type="checkbox"/> Don't know</p> <p>b) If NO, how frequently do you think it should be?</p> <p><input checked="" type="checkbox"/> Annually <input type="checkbox"/> Every two years <input type="checkbox"/> Every three years <input type="checkbox"/> Other (please specify)</p> <p>We would find an update of the scenarios every 1-2 years valuable. We believe there is value in aligning scenario updates with major policy announcements, for example to update the scenarios once the NZ Energy Strategy has been released.</p> |
| Scenarios | |
| 4 | <p>Does the set of four scenarios adequately explore the potential future states that you think will be important? (Please select one)</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Don't know</p> |
| 5 | <p>a) Is each scenario's story internally consistent and coherent? (Please select one)</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Don't know</p> <p>b) If NO, why not?</p> <p>There is an inconsistency between this section and the table in 'Key assumptions' for the Constraint scenario. The assumptions table shows gas availability decreasing in the constraint scenario, which we believe is more consistent for a 'constraint' scenario.</p> |
| 6 | <p>a) Are there other aspects that should be considered in our scenario planning? (Please select one)</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know</p> <p>b) If YES, please write here:</p> |

We consider that a scenario where policy and investment are focused on the energy sector, supporting large renewable generation projects and reducing carbon emissions would be beneficial to include.

We consider that including a criterion for 'alignment with carbon-neutral NZ by 2050 target' would be beneficial.

Key assumptions

7 Do these assumptions align with the four scenario definitions? (Please select one)

Yes No Don't know

We question whether a lower future carbon price for the Growth scenario is consistent with the scenario definition. This suggests that policies and investment do not support decarbonization and energy transition in the Growth scenario.

8 a) Do you agree with these assumptions? (Please select one)

Yes No Don't know

No further comments to add to our responses above.

b) If NO, please explain or add any specific changes to the table provided below.

If you wish to provide alternative assumptions from those we have identified, please fill out the cells in the table below.

| | Variable | Reference | Growth | Constraint | Innovation |
|------------------------|--|-----------|--------|------------|------------|
| General | Carbon price (NZD / t CO ₂ -e) | | | | |
| | Crude oil price (USD / barrel) | | | | |
| | Exchange rate (NZD/USD) | | | | |
| | Real discount rate | | | | |
| | GDP | | | | |
| | Population | | | | |
| Electricity generation | Gas availability for electricity generation ¹ | | | | |
| | Cost of wind generation | | | | |
| | Cost of grid solar generation | | | | |
| Tech nology | Residential solar PV | | | | |

¹ This is how much natural gas is available for electricity generation, not actual levels of usage

| | | | | | |
|--------------------|--------------------------------|--|--|--|--|
| | Electric vehicles | | | | |
| Electricity demand | Peak demand | | | | |
| | Demand-side response | | | | |
| Energy demand | Energy efficiency improvements | | | | |

9 a) Do you agree with these process heat assumptions? (Please select one)

Yes No Don't know

b) If NO, why not?

10 What mix of electricity and biomass should we be assuming for process heat fuel-switching in each of our scenarios? Please fill out the table supplied below.

Please fill in what percentages of electricity and biomass you think should be used for process heat in each scenario.

| Fuel type | Reference | Growth | Constraint | Innovation |
|-------------|-----------|--------|------------|------------|
| Electricity | | | | |
| Biomass | | | | |

A general comment is that industrial users who currently use gas for process-heat may be unlikely to prefer fuel-switching to biomass compared to other renewable energy sources. Compared to gas, using biomass for process heat would require new storage and handling facilities, increased traffic on site due to deliveries (significant for large users) and potential resource consent changes due to increased particulate emissions.

11 What do you think we should be assuming for the **future activity** of large energy users involved in specific industry process heat applications in each of our scenarios?

A general comment is that there are opportunities for large energy users to make use of new processes and equipment to lower their use of non-renewable energy sources, and there are likely to be more opportunities in future as technology develops. For example, green hydrogen can be used in steel-making to reduce coal usage.

12 What do you think we should be assuming for the **closure** of large energy users involved in specific industry process heat applications in each of our scenarios?

We do not have a comment on this.

13 a) Do you agree with our approach to the possible closure of Tiwai Point? (Please select one)

Yes No Don't know

b) If NO, why not?

Generation stack

14 What timeline do you believe we should use for the **refurbishment** of existing plants?

We do not have a comment on this.

15 What timeline do you believe we should use for the **retirement** of existing plants?

We do not have a comment on this.

16 a) Do you feel your views on the refurbishment or retirement of plants would be affected by scenario? (Please select one)

Yes No Don't know

We do not have a comment on this.

b) If YES, please provide details.

17 If you know of any additional plants that need to be considered, please provide information below.

See comments below on section 19.

18 a) Do you agree with our definition of potential plants? (Please select one)

Yes No Don't know

b) If NO, why not?

See comments below on section 19.

19 a) Do you agree with what we have presented in Table 4 in Appendix A of the Consultation document around generic plants? (Please select one)

Yes No Don't know

b) If you have amendments or additional information, please provide details below.

We consider that the 'Enabling investment in offshore renewable energy' discussion document issued by MBIE in late 2022 demonstrates the potential of New Zealand's offshore wind industry and real interest from experienced offshore windfarm developers. As per our submission on this document in April 2023, we are exploring the feasibility of a large offshore wind farm (or wind farms) in the South Taranaki Bight. The initial development under investigation is up to 1GW, which would represent over 11 per cent of Aotearoa New Zealand's current electricity demand capacity and could power over 650,000 homes. We believe this could later expand to 2GW, helping to meet strong projected growth in demand for electricity, making it significantly larger than most other renewable energy projects currently under consideration in the country. Depending on the speed at which the regulatory framework is established, we are aiming for the South Taranaki development to be operational by 2030.

For consistency with MBIE's approach to offshore wind in the "Enabling investment in offshore renewable energy' discussion document, we consider that the offshore wind plants in Table 4 – Appendix A reflect the size of projects that offshore wind developers are currently investigating in New Zealand.

20 a) Given the information presented in the Generation stack section and Appendix A of the Consultation document, are there any other generation types that we are missing from our generation stack? (Please select one)

Yes

No

Don't know

b) If YES, please specify.

Views on new and emerging technologies

21 How do you envision the cost for new technologies changing in coming years?

We note that offshore wind equipment costs continue to decrease in mature markets and expect this to continue, subject to the supply chain operating effectively. Given that our development under consideration is some years from construction, we hope that equipment costs will have decreased further by the time our development is in the procurement phase.

22 What do you think the uptake will be like for these new technologies?

We are pleased to have experienced a high level of regional and national support and enthusiasm for offshore wind energy. Many organisations in New Zealand consider offshore wind projects as realistic and having serious potential for energy resilience, decarbonisation and job creation.

23 How do you believe New Zealand's green hydrogen industry will develop between now and 2050? What role will hydrogen taken in our electricity system in this time?

Due to the high level of global interest and investment in green hydrogen, we expect this to develop into a mature industry in the coming decades. We see an opportunity for New Zealand to use green hydrogen to decarbonise transport, process heat and hard-to-abate sectors. Further to this, New Zealand could use green hydrogen as an input to value-add products for export.

Next steps

24 Which of the below products would you find MOST beneficial? Please rank them from 1 (most beneficial) to 4 (least beneficial).

4 Electricity Generation Investment Opportunities Report

1 Energy Outlook

3 Generation Stack Report

2 Levelised Cost of Electricity Generation (LCOE)

[To edit the rankings above: right click on the field "1, 2, 3 or 4", then select 'Update Field']

Additional feedback

25 Do you have any additional feedback that you would like to provide on the EDGS or the options we have proposed? If yes, please provide below.

Thank you for completing this submission template, we appreciate you taking the time. We will use your feedback to inform our modelling for EDGS 2023 and will refine the draft assumptions based on feedback received through consultation.