

# 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](mailto: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](mailto: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](http://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)	
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](mailto: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 a) Do you agree with the stated purpose of EDGS? (Please select one)

Yes                       No                       Don't know

b) Why, or why not?

2 How do you use EDGS?

3 a) Do you agree with the frequency of the EDGS? (Please select one)

Yes                       No (please elaborate below)                       Don't know

b) If NO, how frequently do you think it should be?

Annually     Every two years     Every three years     Other (please specify)

## Scenarios

4 Does the set of four scenarios adequately explore the potential future states that you think will be important? (Please select one)

Yes                       No                       Don't know

5 a) Is each scenario's story internally consistent and coherent? (Please select one)

Yes                       No                       Don't know

b) If NO, why not?

6 a) Are there other aspects that should be considered in our scenario planning? (Please select one)

Yes                       No                       Don't know

b) If YES, please write here:

See comments at end

## Key assumptions

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

Yes                       No                       Don't know

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

Yes                       No                       Don't know

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 <sub>2</sub> -e)				
	Crude oil price (USD / barrel)				
	Exchange rate (NZD/USD)				
	Real discount rate				
	GDP				
	Population				
Electricity generation	Gas availability for electricity generation <sup>1</sup>				
	Cost of wind generation				
	Cost of grid solar generation				
Technology uptake	Residential solar PV				
	Electric vehicles				
Electricity demand	Peak demand				
	Demand-side response				

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

<b>Energy demand</b>	Energy efficiency improvements				
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9 a) Do you agree with these process heat assumptions? (Please select one)

Yes                       No                       Don't know

b) If NO, why not?

1 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				

1 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?

1 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?

1 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

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

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

1 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

b) If YES, please provide details.

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

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

Yes  No  Don't know

b) If NO, why not?

1 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.

2 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

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

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

2 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?

## Next steps

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

1, 2, 3 or 4 **Electricity Generation Investment Opportunities Report**

1, 2, 3 or 4 **Energy Outlook**

1, 2, 3 or 4 **Generation Stack Report**

1, 2, 3 or 4 **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

2 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.

Two issues seem to be missing from the scenarios. The first is full electrification of the rail system and increased use of rail for both passengers (including long distance rail) and for freight. The second, and probably more important, is electricity demand from aviation. One aspect will be the electrification of some aspects of domestic aviation. But potentially having a much greater impact will be if the Power to Fuel route is chosen to produce Sustainable Aviation Fuel for both domestic and international aviation. If produced in New Zealand to fully meet the current and projected growth in flying, the renewable electricity demand will be huge. These issues are touched on in the paper

[https://www.researchgate.net/publication/369688524\\_Decarbonising\\_Aotearoa\\_New\\_Zealand's\\_aviation\\_sector\\_Hard\\_to\\_abate\\_but\\_even\\_harder\\_to\\_govern\\_Working\\_Paper](https://www.researchgate.net/publication/369688524_Decarbonising_Aotearoa_New_Zealand's_aviation_sector_Hard_to_abate_but_even_harder_to_govern_Working_Paper)

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.