

# #51

**COMPLETE**

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## Page 3: Submitter Information

**Q2** **No**

Are you making this submission on behalf of a business or organisation?

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## Page 4: New Zealand's interests in space

**Q7** **Academic involvement on space issues**

What are your interests and relationship to space? Pick as many as apply below:

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**Q8** **Respondent skipped this question**

Please note any other interests and relationship to space below that you would like to share.

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## Page 5: New Zealand's values in space

**Q9**  
To what extent do you agree or disagree that these values should apply to New Zealand's space activities and engagements?

Innovation	<b>Strongly agree</b>
Responsibility	<b>Strongly agree</b>
Stewardship	<b>Strongly agree</b>
Partnership	<b>Strongly agree</b>

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**Q10** **Respondent skipped this question**

Are there any other values, or aspects of kaitiakitanga (guardianship), that you think should apply to New Zealand's space activities and engagements? For example, cultural values regarding space.

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## Page 6: New Zealand's space policy objectives

**Q11**

Rank these key policy objectives in order of importance to you: Click and drag to reorder the objectives from 1 (most important) to 5 (least important)

Growing an innovative and inclusive space sector	<b>5</b>
Modelling sustainable space and Earth environments	<b>2</b>
Promoting the responsible uses of space internationally	<b>1</b>
Protecting and advancing our national security and economic interests	<b>3</b>
Regulating to ensure space activities are safe and secure	<b>4</b>

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Page 7: Growing an innovative and inclusive space sector

**Q12**

To what extent do you agree or disagree that these policy objectives will help the New Zealand government to grow an innovative and inclusive space sector?

Promoting New Zealand's natural advantage for conducting space activities, and research and development expertise across the space value chain	<b>Agree</b>
Partnering within New Zealand and internationally to increase research and development capabilities	<b>Strongly agree</b>
Identifying opportunities to increase diversity in the space sector	<b>Agree</b>
Using cutting-edge space technology and space sourced data to support New Zealand's values and interests	<b>Strongly agree</b>

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**Q13**

**Respondent skipped this question**

Do you have any comments on these policy objectives? (e.g. any suggested change to how they are framed? Is there anything missing?)

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**Q14**

**Respondent skipped this question**

Are there any other policy objectives that you think would help the New Zealand government to grow an innovative and inclusive space sector?

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**Q15**

**Respondent skipped this question**

Do you have any questions or comments about what these objectives would mean in practice?

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Page 8: Promoting the responsible uses of space internationally

**Q16**

To what extent do you agree or disagree that these policy objectives will help the New Zealand government to promote the responsible uses of space internationally?

Advocating for effective international rules, norms and standards in space **Strongly agree**

Partnering with like-minded launch states to adopt peaceful, responsible and sustainable space practices **Strongly agree**

Collaborating internationally to increase New Zealand's influence and capabilities in the global space sector **Strongly agree**

**Q17**

**Respondent skipped this question**

Do you have any comments on these policy objectives (e.g. any suggested change to how they are framed? Is there anything missing?)

**Q18**

**Respondent skipped this question**

Are there any other policy objectives that you think would help the New Zealand government to promote the responsible uses of space internationally?

**Q19**

**Respondent skipped this question**

Do you have any questions or comments about what these objectives would mean in practice?

Page 9: Protecting and advancing our national security and economic interests

**Q20**

To what extent do you agree or disagree that these policy objectives will help the New Zealand government to protect and advance our national security and economic interests?

Use space assets to protect and advance New Zealand's national security and economic interests **Neither agree nor disagree**

Manage the broad range of security risks in space to protect New Zealand's space industry **Agree**

Collaborate with international space and security partners to pursue New Zealand's national security and economic interests **Don't know**

**Q21**

**Respondent skipped this question**

Do you have any comments on these policy objectives (e.g. any suggested change to how they are framed? Is there anything missing?)

**Q22**

Respondent skipped this question

Are there any other policy objectives that you think would help the New Zealand government to protect and advance our national security and economic interests?

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**Q23**

Respondent skipped this question

Do you have any questions or comments about what these objectives would mean in practice?

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Page 10: Modelling sustainable space and Earth environments

**Q24**

To what extent do you agree or disagree that these policy objectives will help the New Zealand government to model sustainable space and Earth environments?

Encouraging inclusive, sustainable space collaborations within New Zealand **Strongly agree**

Assessing the cumulative impact of space activities on the Earth environment **Strongly agree**

Assisting with solving sustainability challenges through space data, including to better monitor or understand the Earth's environment **Strongly agree**

Investing in New Zealand's capability to retain, grow, access and use sustainable space technologies **Strongly agree**

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**Q25**

Do you have any comments on these policy objectives (e.g. any suggested change to how they are framed? Is there anything missing?)

A good tool to evaluate the environmental impact of a space system (vehicle, launcher, ground segment) is the Space Systems Life Cycle Assessment. It was adapted by ESA and others (i.e. the University of Strathclyde) for the special needs of the space industry.

In a research project at UoA we conducted a high-level (streamlined) life cycle assessment of a CubeSat launched from NZ. I.e. it is possible to use this tool in a NZ context, however more data is needed from the companies involved in the process and the supply chain.

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**Q26**

Respondent skipped this question

Are there any other policy objectives that you think would help the New Zealand government to model sustainable space and Earth environments?

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**Q27**

Respondent skipped this question

Do you have any questions or comments about what these objectives would mean in practice?

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Page 11: Regulating to ensure space activities are safe and secure

**Q28**

To what extent do you agree or disagree that these policy objectives will help the New Zealand government to promote the responsible uses of space internationally?

Facilitating the safe and secure use of emerging space technologies from New Zealand	<b>Agree</b>
Clarifying what New Zealand space activities are inconsistent with the national interest	<b>Strongly agree</b>
Promoting and protecting New Zealand's interests through permitting space technologies	<b>Don't know</b>

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**Q29**

**Respondent skipped this question**

Do you have any comments on these policy objectives (e.g. any suggested change to how they are framed? Is there anything missing?)

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**Q30**

**Respondent skipped this question**

Are there any other policy objectives that you think would help the New Zealand government to ensure space activities are safe and secure?

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**Q31**

**Respondent skipped this question**

Do you have any questions or comments about what these objectives would mean in practice?

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Page 12: Regulating in line with our national interests

**Q32**

Are there any comments you would like to make about these criteria that inform consideration of the national interest?

How is the sustainable principle defined? The current statement seems relatively vague: "New Zealand should promote sustainable space practices that preserve the benefits of space for future generations."

Space Systems Life Cycle Assessment could be a tool to help quantifying this.

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**Q33**

What questions do you have about how the national interest is considered in practice?

Is this more subjective judgement or is there some system in place to make sure every permit adheres to the principles (i.e. something like a national interest score?). From the list of published permits it is not always clear how a payload is approved.

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