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Page 3: Submitter Information

Q1

Personal Information

Name

Allyn Robins

Email Address



Q2

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

Yes (Please tell us your company/organisation):
Brainbox

Page 4: New Zealand's interests in space

Q7

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

General interest in space,
Academic involvement on space issues,

Other (please specify):

From 2019-2022 I worked as an analyst at the National Assessments Bureau, holding both the space and emerging technology portfolios. I also have a Master's degree in Physics, and a personal interest in both space tech and space policy. I now work at Brainbox, a consultancy company and think tank specialising in issues at the intersection of law, public policy and technology.

Q8

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

From 2019-2022 I worked as an analyst at the National Assessments Bureau, holding both the space and emerging technology portfolios. I also have a Master's degree in Physics, and a personal interest in both space tech and space policy. I now work at Brainbox, a consultancy company and think tank specialising in issues at the intersection of law, public policy and technology.

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 | Agree |
| Responsibility | Strongly agree |
| Stewardship | Strongly agree |
| Partnership | Agree |

Q10

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.

These values are broadly framed and adequately cover the range of factors relevant to New Zealand's space activities and engagements. We observe there is a high degree of overlap between the descriptions under Responsibility, Stewardship and Partnership. These values could be labelled better, or distinguished more carefully in their descriptions. This would make the values more useful to people formulating policy and responding to policy engagements.

Page 6: New Zealand's space policy objectives

Q11

Respondent skipped this question

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)

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 | Strongly agree |
| Partnering within New Zealand and internationally to increase research and development capabilities | Strongly agree |
| Identifying opportunities to increase diversity in the space sector | Strongly agree |
| Using cutting-edge space technology and space sourced data to support New Zealand's values and interests | Strongly agree |

Q13

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

There is little to disagree with in the way these objectives are framed. Going forward, we will be looking to see how these are operationalised into specific policy detail. We encourage MBIE to ensure it consults on the operationalisation of these objectives, not just the objectives themselves.

Q14

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

Build domestic expertise and infrastructure to promote an independent space sector. This is arguably implicit in objectives a. and b., but it should be made explicit. New Zealand's space sector currently relies heavily on foreign companies and personnel. While this may be unavoidable to some extent, it can and should be mitigated through policy measures.

Q15

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

It is very difficult from this document to assess what these objectives would mean in practice. What is MBIE's plan for operationalising each policy objective? Is there any indication of the relative importance of these objectives? What happens when they come into conflict – or indeed, when the overarching objectives come into conflict (for example, when “growing an innovative and inclusive space sector” comes into conflict with another overarching objective like “modelling sustainable space and Earth environments”)? We encourage MBIE to ensure it consults on the operationalisation of these objectives, not just the objectives themselves.

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 | Agree |

Q17

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

As before, these policy objectives all sound agreeable, but there is little detail in either this form or the policy consultation document about how they are likely to be operationalised in practice – or their relative priority. We encourage MBIE to ensure it consults on the operationalisation of these objectives, not just the objectives themselves.

Q18

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

We think these three objectives – broad as they are – pretty much cover it.

Q19

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

Does advocacy involve taking a lead role in adopting rules/norms/standards before they become widely accepted? Would partnership be limited to “like-minded” states? What if a state not generally considered “like-minded” approached New Zealand for help in adopting responsible and sustainable space practices? What form would collaborations take? Would these be limited to “like-minded” countries? To what degree is ‘increasing New Zealand’s capabilities’ weighted against the other policy objectives in this document in decision making?

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 | Strongly agree |
| 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 | Agree |

Q21

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

As before, these policy objectives all sound agreeable, but there is little detail in either this form or the policy consultation document about how they are likely to be operationalised in practice – or their relative priority. We encourage MBIE to ensure it consults on the operationalisation of these objectives, not just the objectives themselves.

Q22

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?

Given the high utility of space infrastructure – and that infrastructure's vulnerability to orbital debris and low-probability, high-impact events such as large solar flare – we recommend an additional policy objective around ensuring the resilience of New Zealand's critical space infrastructure and/or providing non-space alternatives for key functions.

Q23

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

As before, implementation details would be helpful. In addition, collaboration with international space and security partners has the potential to be counterproductive if our and their economic and security interests are conflated. What mechanisms will be in place to mitigate this risk?

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 | 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 | Agree |
| Investing in New Zealand's capability to retain, grow, access and use sustainable space technologies | Agree |

Q25

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

As before, these policy objectives all sound agreeable, but there is little detail in either this form or the policy consultation document about how they are likely to be operationalised in practice. We encourage MBIE to ensure it consults on the operationalisation of these objectives, not just the objectives themselves. Does "assessing the cumulative impact of space activities on the Earth environment" cover the cumulative impact of space activities on orbital environments? As-is, there is no clear policy objective for assessing – and potentially mitigating – the impacts of current or planned space activities on the availability of space for future generations. This assessment and mitigation should be done systematically and directly, rather than by simply encouraging 'sustainable collaborations' or investing in NZ's capability to access/use 'sustainable space technologies'.

Q26

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

There should be strong, clear, and enforceable requirements for space debris minimisation and mitigation applied to any space activities that New Zealand has jurisdiction over. As acknowledged in the statutory review of the OSA, there is no clear standard for debris mitigation requirements. In addition to creating uncertainty for operators, this creates risks for long-term sustainability as it is very difficult to verify that debris mitigation plans submitted under the current regime will be effective – and no reliable mechanisms for ensuring that they are followed, or consequences if they prove ineffective. While the statutory review expresses reluctance to prescribe standards lest they "inhibit innovation", the current system simply cannot be said to "model sustainable space and Earth environments" and undermines our ability to promote responsible uses of space internationally.

Q27

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

We've outlined some above, but an over-arching question is what "sustainable" means. Does it mean producing a minimal amount of debris and/or pollutants? Does it mean that said activities or technologies can be deployed long-term without significant environmental damage? Is this per-case, or in aggregate? Launching 10,000 individually 'sustainable' satellites could well be more damaging to Earth and space environments than launching 100 less 'sustainable' satellites, for instance. We would be interested to hear whether MBIE will be drawing on concepts of sustainable management as deployed in the Resource Management Act 1991, including the application of this concept in case law and policy instruments. This may add more substance to broad sustainability commitments.

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 | Strongly agree |
| Clarifying what New Zealand space activities are inconsistent with the national interest | Strongly agree |
| Promoting and protecting New Zealand's interests through permitting space technologies | Agree |

Q29

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

"Promoting and protecting New Zealand's interests through permitting space technologies" doesn't fit naturally beneath the banner of "regulating to ensure space activities are safe and secure" – it seems like a better fit under "protecting and advancing our national security and economic interests". We think that objective b – "clarifying what New Zealand space activities are inconsistent with the national interest" – could be expanded to include also clarifying which New Zealand space activities are seen as particularly beneficial to the national interest.

"Facilitating the safe and secure use of emerging space technologies from New Zealand" is also slightly odd framing – it implies that the government is not interested in facilitating the safe and secure use of emerging space technologies from outside New Zealand.

Q30

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

We think there should be two additional objectives, along these lines: "Regularly evaluating and adjusting regulations to ensure their effectiveness", and "Ensuring that regulations are well-understood and the responsibilities imposed are clear".

Q31

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

As before, these policy objectives are extremely broad and could play out in myriad different ways depending on the details of their implementation. Without those details it's difficult to provide much comment.

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?

These criteria seem to leave open the possibility of the Minister authorising space activities with the intended use of harming, interfering with, or destroying targets on earth that aren't space systems. If this is intentional, we recommend it be made explicit so that there can be a larger conversation about whether this aligns with New Zealand's values. New Zealand has a stated foreign policy interest in a well-functioning rules-based international system. New Zealand trades on its reputation for upholding this system in economic and diplomatic circles. We suggest that language could be added explicitly naming "human rights" or "human rights principles" (or similar) to the consideration of the national interest, which may at times be perceived to conflict with human rights. We observe that space policy is an emerging area and that human rights instruments and principles can be a useful means of generating consensus among international actors, as well as providing a framework for reconciling various interests in a situation where domestic and international norms are still emerging.

Q33

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

Will there be public clarification of which "specific defence, security or intelligence operations... are contrary to government policy"? How will "serious or irreversible harm to the environment" be evaluated? Will New Zealand's human rights obligations (domestically and internationally) be considered in assessing the national interest?
