

#43

COMPLETE

Collector:  
Started:  
Last Modified:  
Time Spent:  
IP Address:



Page 3: Submitter Information

Q1

Personal Information

Name

Nalayini Davies

Email Address



Q2

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

Yes (Please tell us your company/organisation):  
Royal Astronomical Society of New Zealand (RASNZ)

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,**

**Work in the New Zealand space sector,**

**Have cultural connections to space,**

**Academic involvement on space issues,**

Other (please specify):

RASNZ represents the interests of over 2,000 persons and a number of diverse institutions who fall into all of the above categories. In particular, supporting and promoting all astronomic activities in NZ fall within the scope of RASNZ and its specialist sub activity through its Dark Sky Group supports the general public's naked eye access to the night sky from dark sky locations and the protection and preservation of biodiversity in those locations. Although there is an acknowledgement in this Section 1 of the cultural and historic aspects of space in reference to NZ's association with space going back centuries, the emphasis seems to have clearly shifted to the utilitarian and economic benefits of pursuing NZ's interests in space rather than demonstrating a better balance. For the policies to be truly inclusive, it is important that they reflect the interest of the diverse stakeholders involved viz: (i) The continued accessibility of night skies for naked eye observations for cultural and historic reasons (which RASNZ has practically observed to have increased markedly following the impact of Matariki becoming a NZ public holiday this year) and one that adapts mitigations to minimise the impact of exponentially increasing number of satellites as proposed to the United Nations' Committee on the Peaceful Uses of Outer Space (COPUOS) by the Dark and Quiet Skies Working Group of the International Astronomical Union (IAU) - see <https://noirlab.edu/public/media/archives/techdocs/pdf/techdoc022.pdf> ; full report can be downloaded from <https://doi.org/10.5281/zenodo.5874725> . Note: A member of RASNZ Management Council was an integral member of the Dark and Quiet Skies Working Group and, among other things, represented the interest of NZ.

**Q8**

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

RASNZ represents the interests of over 2,000 persons and a number of diverse institutions who fall into all of the above categories.

In particular, supporting and promoting all astronomic activities in NZ fall within the scope of RASNZ and its specialist sub activity through its Dark Sky Group supports the general public's naked eye access to the night sky from dark sky locations and the protection and preservation of biodiversity in those locations.

Although there is an acknowledgement in this Section 1 of the cultural and historic aspects of space in reference to NZ's association with space going back centuries, the emphasis seems to have clearly shifted to the utilitarian and economic benefits of pursuing NZ's interests in space rather than demonstrating a better balance.

For the policies to be truly inclusive, it is important that they reflect the interest of the diverse stakeholders involved viz:

(i) The continued accessibility of night skies for naked eye observations for cultural and historic reasons (which RASNZ has practically observed to have increased markedly following the impact of Matariki becoming a NZ public holiday this year) and one that adapts mitigations to minimise the impact of exponentially increasing number of satellites as proposed to the United Nations' Committee on the Peaceful Uses of Outer Space (COPUOS) by the Dark and Quiet Skies Working Group of the International Astronomical Union (IAU) - see

<https://noirlab.edu/public/media/archives/techdocs/pdf/techdoc022.pdf> ; full report can be downloaded from <https://doi.org/10.5281/zenodo.5874725> . Note: A member of RASNZ

Management Council was an integral member of the Dark and Quiet Skies Working Group and, among other things, represented the interest of NZ.

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

**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.

The night sky is a priceless cultural taonga and is of vital historic important to how NZ came to be inhabited by both the Polynesian navigators and by later immigrants triggered by Captain Cook placing NZ on the world map with his journey also motivated by the observation of the astronomical event Transit of Venus in the South Pacific. At present, NZ dark night skies are the best in the world for accessibility and enjoyment and over 20 communities all around NZ are working to protect their night skies for future generation through being accredited by the International Dark Sky Association (IDA) – <https://dsnznz.org/dark-sky-places/>  
It is important that NZ is not blinded by the remarkable success of the private sector participants in the space sector based totally or partially in NZ and put at risk its fundamental values.

We recognise that NZ cannot remain out of step with the rest of the world in this rapidly developing area where it has already demonstrated innovation and success but strongly recommend that NZ advocates the adoption of mitigants identified by Dark and Quiet skies and supports the International Astronomical Union submission to COPUOS as part of NZ's space policy (refer to details provided in an earlier section of this submission).

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	<b>Strongly 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>Strongly agree</b>
Using cutting-edge space technology and space sourced data to support New Zealand's values and interests	<b>Strongly agree</b>

**Q13**

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

To be meaningful they need to be framed with appropriate detail on inclusivity to show that it is wider than simply the participants within the narrow space sector e.g. (i) balance NZ's natural advantage for sustainable form of tourism by keeping its natural night skies protected, (ii) the Space value chain should include education from school right through to very advanced education and scientific research.

**Q14**

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

Education and research related policy objectives rather than simply space launch and operations related.

---

**Q15**

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

How will these objectives be managed through policy and regulation (rather than hopeful and unreliable voluntary mitigation) to minimise any potential adverse impact on astronomical activities and research and the pursuit of dark sky protection and preservation by a number of communities right across the length and breadth of New Zealand?

---

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**

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

The need for a clear statement of support for the IAU submission to COPUOS as part of NZ's space policy – as detailed in earlier comments in this submission.

---

**Q18**

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

Ensure there are no gaps between the policy objectives and areas covered in the IAU submission to COPUOS as part of NZ's space policy.

---

**Q19**

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

They should comprehensively address areas that support the IAU submission to COPUOS as part of NZ's space policy.

---

---

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	<b>Strongly agree</b>
Manage the broad range of security risks in space to protect New Zealand's space industry	<b>Agree</b>
Collaborate with international space and security partners to pursue New Zealand's national security and economic interests	<b>Strongly agree</b>

---

**Q21**

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

New Zealand's economic interests should overtly address Astro-tourism which is increasingly being practiced from numerous NZ's dark sky locations.

Dark Sky Tourism or Astro-tourism has been identified as the pre-eminent growth trend, especially post-Covid, by Lonely Planet, Airbnb and National Geographic. MBIE is well aware of the dominant role of tourism on exports, GDP and employment. Potentially losing the quality of viewing from NZ's natural night skies through a space policy that is not well balanced could have a negative economic impact New Zealand. The benefits of Astro-tourism accrue to numerous parties primarily located in rural areas and inclusivity and equity considerations require their needs to be balanced against the handful of private sector participants and elitist supporting institutions that derive economic benefits from a less balanced space activities focused policy. On 13 October 2022, at the specific request of MBIE's Tourism Operations and Partnerships Team, the submitter and associates from RASNZ made a presentation through their Tourism Industry Webinar with a reach of hundreds of direct and indirect tourism participants. The MBIE team were of the view is that this new Kaupapa and the pursuit of over 20 communities of NZ (from Far North to Stewart Island to the Chatham Islands) for NZ to become the first Dark Sky Nation in the OECD, was important for the tourism industry.

---

**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?

The economic benefits derived from NZ's hitherto unspoilt natural night skies (i.e. dark skies) should be overtly factored into the final framing of space policy objectives.

---

**Q23**

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

Have the economic benefits derived from NZ's hitherto unspoilt natural night skies (i.e. dark skies) been factored into the final framing of space policy objectives especially their inclusive and equitable nature?

**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	<b>Strongly agree</b>
Assessing the cumulative impact of space activities on the Earth environment	<b>Strongly agree</b>
Assisting with solving sustainability challenges through space data, including to better monitor or understand the Earth's environment	<b>Agree</b>
Investing in New Zealand's capability to retain, grow, access and use sustainable space technologies	<b>Agree</b>

**Q25**

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

Sustainable space and Earth environments should include land-based astronomical and dark sky endeavours.

**Q26**

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

Overtly address the need to achieve sustainable space and Earth environments to include land-based astronomical and dark sky endeavours.

**Q27**

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

What impact would they have to ensure sustainable space and Earth environments that includes land-based astronomical and dark sky endeavours?

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>Strongly 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>Agree</b>

**Q29**

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

Yes, the space industry in NZ should be regulated in such a manner (taking on board all foregoing submission comments) to ensure it not only serves the purpose for NZ but also provides "best practice" leadership internationally.

---

**Q30**

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

Take a proactive and supportive position on the recommendations of the Dark and Quiet Skies Working Group of the International Astronomical Union (IAU) to the United Nations' Committee on the Peaceful Uses of Outer Space (COPUOS), as detailed in an earlier section of this submission.

---

**Q31**

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

What will the impact of this be on the practical mitigations recommended in the Dark and Quiet Skies Working Group of the International Astronomical Union (IAU) to the United Nations' Committee on the Peaceful Uses of Outer Space (COPUOS)?

---

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?

National interests should cover all stakeholders (not the small group of participants in the space sector) and all aspects (i.e. cultural, historic, educational, scientific research) and not just economic. The principles of inclusivity, sustainability, equity, diversity etc. should be satisfied in finalising a balanced policy well supported by appropriate regulations without having to rely purely on voluntary goodwill from potentially pre-dominantly economically motivated space sector participants.

---

**Q33**

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

What level of consultations of the diverse stakeholders have taken place to-date and how well will these submissions be integrated in the next steps?

---