New Zealand Space Policy Review Consultation

Submitter information

About you

Name:	privacy of natural persons
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Are you making this submission on behalf of a business or organisation?

☒ Yes ☐ No

If yes, please tell us the title of your company/organisation.

Kuiper Systems LLC

Would you like to be kept informed of the outcome of the Space Policy Review?

☒ Yes ☐ No

Are you happy for MBIE to contact you if we have questions about your submission?

☒ Yes ☐ No

Release of information

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Section 1: New Zealand interests in space

New Zealand's association with space goes back centuries – the first Māori explorers navigated by the stars to Aotearoa New Zealand, and centuries later they were followed by European navigators whose instruments also looked to the stars. Today, our modern navigation systems are still guided from space.

New Zealanders rely on space assets to do everyday tasks, like banking, transporting goods, travelling by air, and talking with each other. As the world becomes more connected and digitised, our reliance on space to support our daily lives is only going to increase.

The New Zealand government pursues a range of cross-cutting interests in space – including economic development, national security, regulation, international relations, and environmental interests. These interests are often articulated in broader government policies, strategies and assessments and inform our approach to space policy interests.

Question 1. 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	Cultural connections to space	Academic involvement on space issues	Other (please explain in box below)
☒	☒	☐	☐	☒

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

Kuiper Systems LLC ("Kuiper"), a wholly owned indirect subsidiary of Amazon.com Inc. and affiliate of Amazon Kuiper New Zealand Limited (collectively "Amazon"), welcomes this opportunity to provide feedback on the New Zealand Space Policy Review Consultation and to describe actions we are taking to help ensure long-term space safety and sustainability. Amazon is designing and building a non-geostationary satellite orbit ("NGSO") system to increase global broadband access through a constellation of satellites in low earth orbit ("LEO"). The mission of Project Kuiper is to provide fast, accessible, high-quality broadband to unserved and underserved communities around the world, including in New Zealand. Project Kuiper will be built around the Kuiper System, a flexible, high-performance broadband network that combines satellites with customer terminals, gateway stations, and global networking and infrastructure. The Kuiper System will utilize advanced satellite and earth station technologies with an innovative constellation design and software defined network control functions to serve individual households, as well as schools, hospitals, businesses, and other organizations operating in locations without reliable broadband.

Space safety is a core tenet for Amazon, and Amazon is committed to operating safely and responsibly in space. To that end, Amazon has designed its satellites and system to mitigate the creation of orbital debris and to prioritize space safety, as detailed below.

Section 2: New Zealand values in space

New Zealand's values speak to who we are as a nation and how we act in the world. The following are values that the New Zealand government aims to reflect and promote through space activities, engagements and the use of space technologies. These values are informed by the concept of kaitiakitanga (guardianship) as a guiding framework to ensure that space, and its benefits, remain accessible for all.

- **Innovation** – We value innovation, science, and technology as means of advancing our knowledge about the universe, driving productivity in the economy and improving the wellbeing of New Zealanders. We also want to encourage innovation which is responsible, enables New Zealand to be a good steward of the environment, and enables collaboration with companies and other governments.
- **Responsibility** – Space is a unique domain which is shared by all states. We act responsibly to promote a peaceful, stable, and secure space environment and to inform responsible behaviours on Earth. This includes acting in accordance with the principles in the Outer Space Treaty and other international agreements and arrangements applicable to space, as well as New Zealand's domestic law and policies. We also seek to influence the development of new international instruments, and develop norms and standards with like-minded countries, where there are gaps.
- **Stewardship** – Space offers a unique perspective that is crucial for understanding our environment, including to fight climate change, and better manage our natural resources. At the same time, we take care to act sustainably in space and on Earth to preserve the benefits of these environments for future generations.
- **Partnership** – We are better when we work together. Participation, Partnership, and Protection are key principles of Te Tiriti o Waitangi and we want to continue to engage with Māori on New Zealand's space activities and engagements. The government works alongside New Zealanders and the space sector in developing policy and regulations that impact them; collaborates with international partners on economic, security and other interests; and within international institutions to promote New Zealand's values.

Question 2. To what extent do you agree or disagree that these values should apply to New Zealand's space activities and engagements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
Innovation	☐	☐	☐	☐	☐	☐
Responsibility	☐	☐	☐	☐	☐	☐
Stewardship	☐	☐	☐	☐	☐	☐
Partnership	☐	☐	☐	☐	☐	☐

Question 3. 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).

Section 3: New Zealand's space policy objectives

The New Zealand government supports a range of interests in space (economic, environmental, international, national security and regulatory) by pursuing the following key policy objectives:

- Growing an innovative and inclusive space sector
- Modelling sustainable space and Earth environments
- Promoting the responsible uses of space internationally
- Protecting and advancing our national security and economic interests
- Regulating to ensure space activities are safe and secure

Question 4. Are any of these key policy objectives of particular importance to you?

Growing an innovative and inclusive space sector.

Amazon supports efforts to grow an innovative and inclusive space sector. In New Zealand, as in other countries and regions around the world, innovative space-based systems and technologies are uniquely well positioned to address the need for accessible, reliable, high-quality broadband service, particularly in areas with limited connectivity. Kuiper, for example, will serve locations without reliable broadband and will provide significant benefits with regard to navigation, communications, and emergency response, among other services. We are committed to working with public and private sector partners that share our commitment to bridging the digital divide.

Modelling sustainable space and Earth environments.

Amazon appreciates the focus of the Ministry of Business, Innovation & Employment ("MBIE") on activities to enhance and protect the sustainability of the space and Earth environments, and we are committed to operating safely and responsibly in space. For this reason, Amazon has designed its constellation, satellites, and operations to prioritize space safety. For example, Kuiper's currently authorized satellites will operate at low altitudes, between 590 and 630 km, which helps ensure the satellites can be deorbited quickly and reliably. Satellites will operate at three altitudes within that band, with a tight orbital tolerance (+/- 9 km), avoiding overlap with other large LEO systems and providing additional safety. In order to minimize risks of on-orbit failure, Kuiper satellites will be tested on the ground prior to launch. Further, Amazon will launch satellites to an altitude near 400 km—and fully deploy and test the satellites prior to orbit raising. Post mission, Amazon will actively deorbit each Kuiper satellite within one year using our propulsion system.

Kuiper satellites will also use propulsion to manoeuvre the satellites through their deployment, mission, and post-mission deorbit. A combination of component design and shielding will help protect critical components, especially the battery and the propellant tanks, which are designed to leak rather than burst if impacted by small debris. Amazon's satellites will also include backup systems, such as independent solar panels and redundant flight computers, radios, and sensors to help preserve spacecraft functions in the event of small debris impact.

Additionally, Amazon is taking a number of measures to enhance the predictability and safety of its space operations. For example, Amazon plans to share with other operators and stakeholders information such as predictive trajectories (ephemerides and covariance) and planned manoeuvres (including de-orbit and orbit raising). Specifically, Amazon plans to share ephemeris data and other appropriate operational information with spaceflight operators via portals such as Space-Track, or directly though bilateral coordination efforts, to mitigate conjunction risk. Amazon will also conduct active collision avoidance throughout the mission—from early operations after dispensing to post-mission re-entry—and use available sources of space situational awareness ("SSA") data to assess conjunction warnings. Amazon will typically begin planning and screening for a risk

mitigation manoeuvre when the risk of collision with another trackable object in space exceeds 1/100,000, a significant improvement over standard industry practice.

Promoting the responsible uses of space internationally.

Amazon recognizes the importance of policymakers working collaboratively with satellite operators to develop operational frameworks and best practices covering areas such as SSA and space traffic coordination ("STC"). In particular, Amazon supports government efforts to engage with industry and the international community on best practices, including operational protocols, for the responsible use of space. These efforts highlight the important role of civil authorities in bringing space stakeholders together to facilitate a consensus-driven, standards-building processes for operations in space. In this regard, the private sector should continue to work to establish and adopt practices and accepted norms of behaviour for space operations.

Protecting and advancing our national security and economic interests.

Space-based services play an important role in promoting economic growth. In New Zealand, as in other countries and regions around the world, satellite-based systems, such as the Kuiper System, are uniquely positioned to address the need for reliable, high-quality connectivity, which enhances opportunities for learning, employment, entrepreneurship, communication, and economic growth across the country and globally. Space-based systems can reliably provide service to homes, schools, hospitals, businesses of all sizes, first responders, and disaster relief operations, as well as to aircraft, maritime vessels, and land vehicles—including when and where other communications systems cannot (like during natural disasters or in remote areas). Such reliable and accessible service translates into significant economic and public benefits for New Zealand, and beyond.

The New Zealand Space Policy Review ("Policy Review") also recognizes the importance of space systems to the national security of New Zealand. Amazon commends the MBIE's recognition of the important role commercial space systems play in future national security challenges, as evidenced by the recognition of new technologies at work in the on-going conflict in the Ukraine. NGSO systems, such as the Kuiper System, are a means to protect and advance New Zealand's national security interests, and can help manage a range of security risks in space and on Earth.

The Kuiper System, for instance, will offer the government of New Zealand resilient broadband communications through a global space mesh network: the Kuiper System can deliver continued communications despite disruption to undersea fibre networks, or geosynchronous satellite networks, serving New Zealand. The Kuiper System also has the potential to improve maritime domain awareness by providing faster, higher throughput communications to the maritime surveillance assets of the New Zealand Defence Force ("NZDF"). And, importantly, the Kuiper System will offer higher speed secure communications than those currently available to the air, land, and sea assets of the NZDF deployed locally and overseas.

Amazon's Kuiper Government Solutions ("KGS") team is focused on the application of Kuiper to a wide range of government missions, on Earth and in space. KGS is working with space industry partners to develop technical solutions to bring the power of the Kuiper network to aircraft, ships, space and land mobile government systems. Kuiper's future team members and partners will include satellite terminal developers and integrators, space system manufacturers, and potentially launch providers, with an initial emphasis on companies providing solutions to members of the Combined Space Operations ("CSpO") initiative. The Policy Review supports such engagements with the space industry of New Zealand.

Regulating to ensure space activities are safe and secure.

In this period of rapid technological growth, an important focus of governments and international bodies should be on developing policy and regulatory environments that act as an enabler to the satellite and space industry. To effectively do so, governmental and international entities should collaborate with industry to arrive at shared protocols and practices for operations in space, with a particular focus on practices that enhance space sustainability and minimize conjunction risk. Civil authorities play a key leadership role in bringing stakeholders together in a consensus-driven, standards building process to arrive at common operational protocols. By creating opportunities for engagement, New Zealand can be a strong partner for space innovation and promotion.

Section 3a: Growing an innovative and inclusive space sector

OBJECTIVES

The New Zealand government supports the growth of an innovative and inclusive space sector. This means:

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

Question 5. 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?

a. Promoting New Zealand's natural advantage for conducting space activities, and research and development expertise across the space value chain

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☐	☐	☐

b. Partnering within New Zealand and internationally to increase research and development capabilities

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☐	☐	☐

c. Identifying opportunities to increase diversity in the space sector

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☐	☐	☐

d. Using cutting-edge space technology and space sourced data to support New Zealand's values and interests î Identifying opportunities to increase diversity in the space sector

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☐	☐	☐

Question 6. Do you have any comments on these policy objectives (e.g. any suggested change to how they are framed)? Is there anything missing?)

Amazon supports the policy objectives of the MBIE regarding increasing space-based research and development capabilities and opportunities, as well as increasing diversity in the space sector. Given the projected growth of the space industry around the world, building a skilled technical workforce that is prepared to meet current and future industry demand will continue to be a pressing issue. Amazon and Kuiper prioritize programs and partnerships to ensure diversity, equity and inclusion in the space industry. Indeed, Amazon builds diversity, equity, and inclusion into its culture (including through its various internal programs and policies, such as through its 16 Leadership Principles), and strives to be a top employer for diverse candidates.

In this regard, on September 9, 2022, at the second convening of the U.S. National Space Council, Amazon joined a new coalition of space companies that will focus on increasing the space industry's capacity to meet the rising demand for a skilled technical workforce. This coalition will stand up three regional pilot programs and collaborate with service providers, such as community colleges, to demonstrate a replicable and scalable approach to attracting, training and creating employment opportunities, particularly for people from backgrounds traditionally underrepresented in STEM jobs.

In addition, Amazon supports policymakers' efforts to work collaboratively across government agencies, regulatory bodies, and industry to promote an enabling, stable regulatory and spectrum environment for space-based systems. Long-term spectrum access is critical for ensuring the ability of satellite systems to operate and provide services that support the digital transformation, technological innovation and economic growth of communities and businesses in New Zealand and around the world.

Question 7. Are there any other policy objectives that you think would help the New Zealand government to grow an innovative and inclusive space sector?

In addition to the policies already under consideration, New Zealand could consider steps to promote, facilitate, and incentivize innovation, including from the private sector. This could include a goal for New Zealand to become a long-term partner for space innovation and promotion. In part, this could be accomplished through the adoption of informed policies that enable growth and development, including with regard to ensuring continued spectrum access for satellite services. Further, in this period of rapid technological growth in space-based services and systems, an important focus of governments, including New Zealand and international bodies, should be facilitating consensus-building and collaboration on space policy and best practices. Amazon supports a strong collaborative and transparent process around policy development in this space.

Question 8. Do you have any questions or comments about what these objectives would mean in practice?

Section 3b: Modelling sustainable space and Earth environments

OBJECTIVES

The New Zealand government advocates for the sustainable use of space to ensure its benefits remain available to future generations. At the same time we seek to use space, and space technologies, to gain understanding and better protect our environment on Earth. Specifically this means:

- Encouraging inclusive, sustainable space collaborations within New Zealand
- Assessing the cumulative impact of space activities on the Earth environment
- Assisting with solving sustainability challenges through space data, including to better monitor or understand the Earth's environment
- Investing in New Zealand's capability to retain, grow, access and use sustainable space technologies

Question 9. 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?

a. Encouraging inclusive, sustainable space collaborations within New Zealand

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☐	☐	☐

b. Assessing the cumulative impact of space activities on the Earth environment

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☐	☐	☐

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

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☐	☐	☐

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

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☐	☐	☐

Question 10. Do you have any comments on these policy objectives (e.g. any suggested change to how they are framed)? Is there anything missing?)

Related to enhancing understanding of the space environment, Amazon believes that reliable and accessible space-related data is essential to a long term safe and sustainable space operational environment. Amazon supports sharing SSA data with other operators for the purpose of improving space safety.

Amazon supports government efforts, including with respect to research and development, to further the predictability of the operational environment. For instance, Amazon supports the development of shared operational protocols between operators, including predictive trajectories (ephemerides sharing, including well-characterized covariance), planned manoeuvres, and collision avoidance manoeuvre logic.

Government investment should aim to improve the quality of SSA data in terms of timeliness, accuracy, size of objects tracked, and accessibility, because better precision data makes for safer and less resource-intensive flight. In particular, Amazon encourages investment in SSA modernization to improve object tracking and to continue to make basic SSA data and related services available. Amazon also encourages government efforts to focus on developing technologies and processes to improve tracking fidelity and object certainty. Research into improving the situational awareness of Earth's atmospheric density using satellite operator data can improve navigation accuracy for all operators. In addition, improvements to navigation accuracy would provide operators with more certainty regarding the necessity of manoeuvring to avoid potential collisions — this would allow operators to fly with greater certainty, and manoeuvre less and save fuel, while helping to ensure a sustainable and predictable space operational environment.

Question 11. Are there any other policy objectives that you think would help the New Zealand government to model sustainable space and Earth environments?

Question 12. Do you have any questions or comments about what these objectives would mean in practice?

Section 3c: Promoting the responsible uses of space internationally

OBJECTIVES

The New Zealand government promotes the responsible use of space internationally. This means:

- Advocating for effective international rules, norms and standards in space
- Partnering with like-minded launch states to adopt peaceful, responsible and sustainable space practices
- Collaborating internationally to increase New Zealand's influence and capabilities in the global space sector

Question 13. 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?

a. Advocating for effective international rules, norms and standards in space

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☒	☐	☐

b. Partnering with like-minded launch states to adopt peaceful, responsible and sustainable space practices

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☒	☐	☐

c. Collaborating internationally to increase New Zealand's influence and capabilities in the global space sector

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☒	☐	☐

Question 14. Do you have any comments on these policy objectives (e.g. any suggested change to how they are framed)? Is there anything missing?)

Amazon supports the focus of the MBIE on engaging with like-minded States with respect to developing international standards and norms for space operations. Governments and international bodies have an opportunity to innovate and develop policy and regulatory environments that support a robust, safe, and sustainable space sector. As noted above, Amazon encourages governments and international bodies to collaborate with other stakeholders, including satellite operators, to arrive at shared protocols and practices for operations in space, with a particular focus on practices that enhance space sustainability and minimize conjunction risk. Civil authorities have an opportunity to play an important leadership role in bringing stakeholders together in a consensus-driven, standards building process to arrive at common operational protocols. To that end, New Zealand can be a strong international partner for space innovation and promotion.

Question 15. Are there any other policy objectives that you think would help the New Zealand government to promote the responsible uses of space internationally?

Question 16. Do you have any questions or comments about what these objectives would mean in practice?

Section 3d: Protecting and advancing our national security and economic interests

OBJECTIVES

To sustainably grow our space sector by having due regard to our national interests we need to:

- Use space assets to protect and advance New Zealand's national security and economic interests
- Manage the broad range of security risks in space to protect New Zealand's space industry
- Collaborate with international space and security partners to pursue New Zealand's national security and economic interests

Question 17. 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?

a. Use space assets to protect and advance New Zealand's national security and economic interests

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☐	☐	☐

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

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☐	☐	☐

c. Collaborate with international space and security partners to pursue New Zealand's national security and economic interests

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☐	☐	☐

Question 18. Do you have any comments on these policy objectives (e.g. any suggested change to how they are framed)? Is there anything missing?)

Question 19. 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?

In addition to the proposed policy positions discussed above, the MBIE could consider supporting other policies that encourage the development of space infrastructure and services, with a recognition of the broad economic benefits that the space-based industry brings. Amazon urges MBIE to focus on developing policies and standards

that enable competition and encourage investment and growth in space-based industry. Amazon supports efforts to, among other things, facilitate the systems and innovations that will help bring affordable connectivity to tens of millions of unserved and underserved people around the world. The benefits of space-based technologies—including for connectivity, navigation, mobility, communications and emergency response, among others—are significant.

Question 20. Do you have any questions or comments about what these objectives would mean in practice?

Section 3e: Regulating to ensure space activities are safe and secure

OBJECTIVES

The New Zealand government regulates to ensure New Zealand space activities are safe and secure. This means:

- Facilitating the safe and secure use of emerging space technologies from New Zealand
- Clarifying what New Zealand space activities are inconsistent with the national interest
- Promoting and protecting New Zealand's interests through permitting space technologies

Question 21. To what extent do you agree or disagree that these policy objectives will help the New Zealand government to ensure space activities are safe and secure through regulation?

a. Facilitating the safe and secure use of emerging space technologies from New Zealand

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☐	☐	☐

b. Clarifying what New Zealand space activities are inconsistent with the national interest

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☐	☐	☐

c. Promoting and protecting New Zealand's interests through permitting space technologies

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
☐	☐	☐	☐	☐	☐

Question 22. Do you have any comments on these policy objectives (e.g. any suggested change to how they are framed)? Is there anything missing?)

Amazon agrees with the focus on policies that will promote space safety and space sustainability. As noted above, space safety is a core tenet for Amazon, and Amazon is committed to operating safely and responsibly in space. Amazon supports a government-industry collaborative process to develop shared protocols and practices for operations in space, with a particular focus on practices that enhance space sustainability and minimize conjunction risk. Civil authorities have an opportunity to play a key leadership role in bringing stakeholders together in a consensus-driven, standards building process to arrive at common operational protocols.

Question 23. Are there any other policy objectives that you think would help the New Zealand government with regulating to ensure space activities are safe and secure?

Amazon supports efforts toward facilitating and promoting common operational protocols in space. Governments should work cooperatively with industry to ensure that any policies adopted are flexible, technically sound, and encourage innovation. Amazon particularly highlights the importance of policymakers working cooperatively with operators to develop operational frameworks and best practices for operations in space.

Question 24. Do you have any questions or comments about what these objectives would mean in practice?

Section 3e(i): Regulating in line with our national interests

Under the Outer Space and High-altitude Activities Act 2017, the Minister for Economic and Regional Development may decline a licence or permit if they are *not satisfied* that it is in the national interest. The Minister may take into account when considering the national interest: economic or other benefits to New Zealand; risks to national security, public safety, international relations or other national interests; risks that cannot be mitigated by conditions of the licence or permit; and any other relevant matters.

As part of policy to inform the language in the Act, Cabinet has agreed to principles that will inform the consideration of national interest for space activities, as well as what is not in New Zealand's national interests. These principles are:

- **Responsibility**: that space activities from New Zealand should be conducted with due care and in such a way as to promote an orbital environment where actors avoid causing harm or interference with the activities of others.
- **Sustainability**: New Zealand should promote sustainable space practices that preserve the benefits of space for future generations.
- **Safety**: space activities from New Zealand should be conducted in a way that does not jeopardise human safety (including the safety of people in space).

- **Aligning with New Zealand's values and interests:** space activity from New Zealand should uphold the policies and values supported by New Zealanders and align with broader policy settings.

The following space activities are *not in New Zealand's interests*; i.e. the Minister will not authorise space activities:

- that contribute to nuclear weapons programmes or capabilities
- with the intended end use of harming, interfering with, or destroying other spacecraft or space systems on Earth
- with the intended end use of enabling or supporting specific defence, security or intelligence operations that are contrary to government policy
- where the intended end use is likely to cause serious or irreversible harm to the environment.

Question 25. Are there any comments you would like to make about these criteria that inform consideration of the national interest?

Amazon recognizes the importance of promoting a safe, secure, and sustainable orbital environment and supports the focus of the MBIE on responsible, sustainable and safe space activity. Protecting the safety of human space flight is of paramount importance. As described above, Amazon prioritizes space safety and the mitigation of orbital debris creation, both through satellite and system design. In particular, a sustainable space environment fosters space-based technology and innovation, and Amazon's Kuiper constellation will prioritize safety in operations and design.

Question 26. What questions do you have about how the national interest is considered in practice?