

Australia’s response to the invitation to provide information on the mandate and purpose of the Working Group on Legal Aspects of Space Resource Activities under the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space

Introduction

Australia welcomes the opportunity to submit its views on the mandate and purpose of the Working Group on Legal Aspects of Space Resource Activities (the Working Group). Australia’s submission is structured consistent with the general guide offered by the Chair and Vice-Chair of the Working Group in their invitation to States Members.

Questions 1 – 2:

- **The type of space resources that fall within the mandate and scope of the Working Group.**
- **The type of activities that fall within the mandate and scope of the Working Group.**

Australia considers that the type of space resources and activities that fall within the mandate and scope of the Working Group may include:

- Activities contemplated by the five United Nations (UN) treaties on outer space;
- Activities and definitions contemplated by the Hague International Space Resources Governance Working Group on the *Building Blocks for the Development of an International Framework on Space Resource Activities*, including definitions for the terms ‘space resource’ and ‘space resource activities’;
- Activities contemplated by national agencies, including the Artemis program;
- Activities contemplated through States Members’ policies, including NASA’s *Lunar Landing and Operations Policy Analysis*¹ and the European Space Agency’s *Space Resources Strategy*.²

Question 3. The type of information to be collected by the Working Group in accordance with its mandate.

Australia suggests that the Working Group consider collecting information from States Members and other interested stakeholders on their current and future activities relating to space resource activities, including scientific and technical elements, as well as States Members’ views regarding the five UN treaties on outer space and other provisions of international law.

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https://www.nasa.gov/sites/default/files/atoms/files/lunar_landing_and_operations_policy_analysis_final_report_24oct2022_tagged_0.pdf

² https://sci.esa.int/documents/34161/35992/1567260390250-ESA_Space_Resources_Strategy.pdf

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For example, the Working Group could request views in relation to the *Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies* ('Outer Space Treaty') and its application to space resource activities. This could include views on the obligations under the Outer Space Treaty, including Authorisation and Continuing Supervision (as per Article VI), Liability (Article VII), Registration (Article VIII) and Due Regard (Article IX), with particular focus on their applicability to space resource activities.

It may also be useful for States Members to provide information on how they are currently giving effect to their obligations in relation to space resource activities.

Question 4. The views of States members regarding the existing legal framework for space resource activities.

Australia is party to the five UN treaties on outer space and is committed to meeting its international obligations. Australia is also committed to contributing to the development of norms that ensure the long-term safety, stability and sustainability of the outer space environment.

The activities of States in outer space are also guided by a number of non-binding instruments. Despite not holding the status of law, Australia recognises that these non-binding instruments indicate the intentions of signatory States as to their conduct in outer space.

Outer Space Treaty

The Outer Space Treaty is the cornerstone of the international legal framework regulating the use and exploration of outer space. While the Outer Space Treaty does not expressly refer to natural resources in outer space, it does envisage the potential exploration and use of outer space, as gleaned from the following provisions:

- 'The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries... and shall be the province of all mankind' (Article I)
- 'Outer space, including the Moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law...' (Article I).

The Outer Space Treaty also provides for the freedom of scientific investigation in outer space, including the Moon and other celestial bodies (Article I). Australia considers that Article I was intended to permit a range of uses of outer space unless such uses are excluded by other articles in the Outer Space Treaty, the international space law framework, or the operation of other international legal obligations.

Article II of the Outer Space Treaty provides that 'outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.' Noting the permissive terms in which Article I of the Outer Space Treaty is drafted, Australia does not consider that Article II of the Outer Space Treaty *prohibits* ownership of resources extracted or removed from the Moon or other celestial bodies.

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However, ensuring compliance with Articles I and II of the Outer Space Treaty requires some understanding of the elements of those obligations or ways of satisfying them in the context of space resource activities, and the Working Group may like to give consideration to this issue.

Rescue Agreement

The *Agreement on the Rescue and Return of Astronauts* ('Rescue Agreement') sets out States' obligations with respect to the rendering of assistance to astronauts in the event of accident, distress or emergency or unintended landing, and with respect to the return of objects launched into outer space. Similar to the other UN treaties on outer space, cooperation is a key theme of the Rescue Agreement, for example, in requiring Contracting Parties to immediately take all possible steps to rescue the personnel of a spacecraft that lands in territory under their jurisdiction and to render them all assistance necessary (Article 2).

The Rescue Agreement confers various protections on the personnel of spacecraft. The Rescue Agreement expands on Article V of the Outer Space Treaty, which obliges States to render all possible assistance to astronauts in the event of accident, distress or emergency landing on the territory of another State Party or on the high seas. The Outer Space Treaty also requires that '[i]n carrying on activities in outer space and on celestial bodies, the astronauts of one State Party shall render all possible assistance to the astronauts of other States Parties' (Article V).

The protections set out in the Rescue Agreement may be engaged in relation to personnel conducting space resource activities on the Moon and other celestial bodies where the personnel of a spacecraft alight or land on the high seas, in territory under the jurisdiction of a Contracting Party, or in *any other place* not under the jurisdiction of any State (including the Moon and other celestial bodies) (Articles 3 and 4). For example, where the personnel of a spacecraft have alighted on a celestial body to undertake space resource activities, and it becomes necessary to rescue those personnel, Contracting States would be obliged to extend assistance in search and rescue operations (Article 3) and ensure the safe and prompt return of those personnel to representatives of the relevant launching authority (Article 4).

Article 10 of the Moon Agreement further strengthens these obligations, requiring States Parties to adopt all practicable measures to safeguard the life and health of persons on the Moon. The Moon Agreement clarifies that the term 'astronauts' (as used in the Outer Space Treaty) and 'personnel of a spacecraft' (as used in the Rescue Agreement) include any person on the Moon, and requires States Parties to offer shelter to persons in distress on the Moon.

Registration Convention

The *Convention on Registration of Objects Launched into Outer Space* ('Registration Convention') creates the framework for registration and consequent jurisdiction and control by the State of registry as referred to in Article VIII of the Outer Space Treaty. This system clarifies States' obligations with respect to the exercise of jurisdiction and control over space objects and their crew undertaking space resource missions, both whilst in transit and whilst on the Moon and other celestial bodies.

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In the context of space resource activities, the Registration Convention requires the State of registry to record and furnish to the UN Secretary-General identifying information, basic orbital parameters and the general function of the space object engaging in that mission (Article IV). The Convention, read alongside the Outer Space Treaty, makes clear that the obligation to retain jurisdiction and control over any space objects remains with the State of registry, which is defined in Article I of the Registration Convention. Noting the broad terms in which the term ‘space object’ is defined (Article I), Australia considers that a launching State’s obligations with respect to the registration of space objects would extend to any object launched into space for the purposes of space resource activities.

Moon Agreement

The *Agreement Governing the Activities of States on the Moon and other Celestial Bodies* (‘Moon Agreement’) provides a framework specific to the exploration, exploitation and use of the Moon and its natural resources.

Article 2 of the Moon Agreement requires that all activities on the Moon, including its exploration and use, shall be carried out:

- in accordance with international law;
- taking into account the *Declaration on Principles of International Law concerning Friendly Relations and Cooperation among States in accordance with the Charter of the United Nations*;
- in the interest of maintaining international peace and security and promoting international cooperation and mutual understanding; and
- with due regard to the corresponding interests of all other States Parties.

Article 4(1) sets out three distinct obligations that also serve to frame States’ activities on the Moon, namely:

- the exploration and use of the Moon shall be the province of all mankind;
- the exploration and use of the Moon shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development; and
- due regard shall be paid to the interests of present and future generations as well as the need to promote higher standards of living and conditions of economic and social progress and development in accordance with the *Charter of the United Nations*.

Article 4(2) establishes that States Parties shall be guided by the principle of cooperation and mutual assistance in all their activities concerning the exploration and use of the Moon.

Article 5 imposes obligations to notify the international community of specific aspects of the State’s space activities to the greatest extent feasible and practicable.

Space resource activities contemplated by the Moon Agreement

In Australia’s view, the Moon Agreement clearly contemplates that States Parties may undertake the following activities on the Moon:

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1. scientific investigation (which is permissible prior to the establishment of an international regime); and
2. exploitation of the Moon's natural resources (subject to the requirements of an international regime, established as such exploitation is about to become feasible).

Freedom of scientific investigation

Article 6(1) of the Moon Agreement expressly provides for 'freedom of scientific investigation on the Moon by all States Parties without discrimination of any kind, on the basis of equality and in accordance with international law'. Article 6(2) establishes two distinct categories of expressly permitted activities in relation to the Moon's minerals:

1. the right to collect and remove samples of the Moon's minerals in carrying out scientific investigations; and
2. the permission to use the Moon's minerals in appropriate quantities to support missions in the course of scientific investigations.

In undertaking such 'scientific investigation', States Parties are to have regard to the 'desirability' of making 'portions' of the samples available to other 'interested' States Parties or the international scientific community to enable them to conduct their own 'scientific investigation.'

In Australia's view, Article 6(1) clearly enables scientific investigation on the Moon and other celestial bodies, and may provide for other exploratory or experimental activities, prior to the establishment of an international regime.

'Exploitation' of the Moon's natural resources

The Moon Agreement expressly contemplates exploitation of the Moon's natural resources, subject to an international regime, including appropriate procedures, to be established as such exploitation is about to become feasible (Article 11(5)).

Article 11(7) outlines the main purposes of the international regime:

- the orderly and safe development of the natural resources of the Moon;
- the rational management of those resources;
- the expansion of opportunities in the use of those resources; and
- an equitable sharing by all States Parties in the benefits derived from those resources, whereby the interests and needs of the developing countries, as well as efforts of those countries which have contributed either directly or indirectly to the exploration of the Moon, shall be given special consideration.

Outside of these four main purposes, it is incumbent upon States Parties to negotiate and develop the precise contours of the international regime.

Under the Moon Agreement, the Moon and its natural resources are the 'common heritage of mankind'. To give expression to this phrase, Australia and other States Parties are obliged to establish an international regime to govern the exploitation of the Moon's resources. As outlined above, this obligation is enlivened at such a time as exploitation is 'about to become feasible'. In Australia's view, the establishment of an international regime governing exploitation of the

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Moon's natural resources consistently with Article 11(5) would permit and facilitate space resource exploitation in a rational, safe and equitable manner, providing a means by which the exploration and use of outer space can be carried out for the benefit and in the interests of all countries.³

Australia considers that the issue of whether exploitation is 'about to become feasible' is a factual question. In our view, the world has not yet arrived at the point where the exploitation of space resources could be considered 'feasible'.

State responsibility for space resource activities

Article VI of the Outer Space Treaty and Article 14 of the Moon Agreement provide that States Parties shall bear international responsibility for national activities in outer space (including the Moon and other celestial bodies), whether such activities are carried out by governmental agencies or by non-governmental entities. States Parties are also obliged to assure that national activities are carried out in conformity with the provisions of the Outer Space Treaty and the Moon Agreement, and to ensure that the activities of non-governmental entities in outer space are subject to authorisation and continuing supervision by the appropriate State Party.⁴

Non-binding instruments

Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space

Australia voted in support of General Assembly Resolution XVIII of 1962, the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space. The Declaration was a foundational instrument adopted unanimously by the General Assembly prior to the conclusion of any UN treaties on outer space and informed subsequent negotiations of the UN treaties on outer space. Australia continues to support the principles articulated in the Declaration.

Artemis Accords

In October 2020, Australia became a signatory to the Artemis Accords, which establish a practical set of principles to guide space exploration and aim to increase the safety of operations, reduce uncertainty, and promote the sustainable and beneficial use of space. Australia's position is that the Artemis Accords are consistent with our international legal obligations, including under the Outer Space Treaty and the Moon Agreement.

Australia supports the non-binding principles contained in the Artemis Accords, including Section 10, which recognises space resources can benefit humankind by providing critical support for safe and sustainable operations. As a signatory, Australia emphasises that any extraction and use of space resources should be executed in a manner that complies with the Outer Space Treaty.

³ See *Outer Space Treaty*, Article I.

⁴ *Outer Space Treaty*, Article VI; *Moon Agreement*, Article 14(1).

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Additionally, Australia affirms that the extraction of space resources does not inherently constitute national appropriation under the Outer Space Treaty. Article I of the Outer Space Treaty provides that outer space is free for exploration and use by all States. Australia's view is that Article I was intended to permit a range of uses of outer space, unless such uses are specifically excluded by applicable international law. Article II provides that outer space is not subject to national appropriation. Australia considers that the extraction of space resources does not inherently constitute national appropriation as proscribed by Article II.

Hague Building Blocks

Australia notes the adoption of the Building Blocks for the Development of an International Framework on Space Resource Activities ('Hague Building Blocks') by the Hague International Space Resources Governance Working Group on 12 November 2019. The Hague Building Blocks contain provisions on the definitions, principles, jurisdiction and responsibility, access and utilisation, and institutional aspects of space resources activities. This includes definitions for the terms 'space resource' and 'space resource activities'.

Question 5. The current practices and challenges in the implementation of the existing legal framework for such activities.

Australia notes there are limited examples of State practice in the context of space resource activities and recognises there are challenges regarding the implementation of the existing legal framework in relation to space resource activities.

For example, there may be uncertainty regarding how to register space objects fabricated on and around the Moon – an activity which may occur in the context of space resource activities. The Registration Convention establishes a process for the registration of objects launched into outer space from Earth to assist in their identification. The Working Group may wish to consider issues relating to objects fabricated on and around the Moon, especially where those objects include component parts launched from Earth by two or more launching States.

There also remains some ambiguity concerning the applicability of various provisions of the UN treaties on outer space to space resources activities. For example, it may be beneficial to consider 'continuing supervision' in relation to commercial space activities.

Given these challenges, Australia considers it important for States Members to work collaboratively as part of the process established by this Working Group to develop a set of initial recommended principles for activities in the exploration, exploitation and utilisation of space resources.

Question 6. The benefits and challenges to the development of a framework for such activities.

Australia considers that the work of this Working Group will be instrumental in better understanding and clarifying how the existing legal framework applies to the exploration, exploitation and utilization of space resources. It may be beneficial to consider how the further

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development of a framework could support technological and scientific developments and the rise of commercial and private entities in outer space.

It would be beneficial if the further development of a framework is consistent with the existing legal framework and considers other relevant instruments, as appropriate.

Question 7. The relevant factors for the development of a set of initial recommended principles for such activities.

Australia considers that general themes within relevant UN treaties and non-binding instruments can support considerations regarding the development of a set of initial recommended principles.

Question 8. The format, agenda, topics and other details of the dedicated conference (currently) scheduled for 2024.

Australia supports the proposal for a dedicated international conference to be held in 2024. Australia considers that it will support outreach activities, and help to facilitate input from non-government, private and academic sectors.

Australia considers that this conference could feature presentations from a range of stakeholders which:

- outline the current international legal framework,
- examine States Members' current legislative settings, and
- provide an overview of practical activities and programs being undertaken or intensively planned for near-future commencement.

Such an approach could serve to augment the information provided through these submissions on the current state of play with regard to activities in the exploration, exploitation and utilization of space resources. This could support the Working Group in gaining a detailed understanding of – and undertaking due consideration of – the current activities, and associated issues and needs, in this area.

Question 9. Any other background or information paper, or any other views, that States members may wish to share.

Nil response.