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There will likely be a role for the UN's Committee on the Peaceful Uses of Outer Space in discussions on space resources, but there are also opportunities for bilateral and multilateral agreements. (credit: United Nations Office for Outer Space Affairs)

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## Putting the White House executive order on space resources in an international context

by Ian A. Christensen and Christopher D. Johnson

Monday, April 27, 2020

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On April 6, the White House released the Executive Order on Encouraging International Support for the Recovery and Use of Space Resources.[1] This executive order, along with the accompanying factsheet,[2] emphatically clarifies the posture of the US government on the use of space resources, including how the United States views existing international rules on the matter, how it will approach the development of any new international rules, and how the United States will foster the commercial utilization of space resources.

This Executive Order ([EO 13914](#)) does not fundamentally change any US position on space resources, but has already sparked international reactions, ranging from supportive, to skeptical, to outright accusatory.[3] These reactions are no doubt a reflection of the view of the current president as much as, or perhaps more than, the underlying subject matter of EO 13914. This essay will explain how EO 13914 restates existing US positions rather than taking new ones, place this order in the context of recent and ongoing international discussions on space resource use, and conclude with a prognosis for how the United States will engage the international community under this order.

**The issuance of this executive order must be viewed not in isolation but instead in the larger context of US space exploration and space commercialization policy.**

### Executive Order #13914

It is important to begin with the facts. The issuance of this executive order must be viewed not in isolation but instead in the larger context of US space exploration and space commercialization policy. The United States clearly views space resources utilization as both a key part of achieving the long-term goals of the Artemis program and future human space exploration, and as a foundational element of a robust future commercial space economy. The week prior to the release of EO 13914, NASA released its Plan for Sustained Lunar Exploration and Development as part of the Artemis Program.[4] This plan describes a vision for sustained scientific and exploration activities on the Moon, conducted in partnership with other states, and in which in situ resource utilization (ISRU) is a key enabling factor. US officials have also spoken in the past on the role space resources will play in growing the commercial space economy.[5] The order's support for commercial

space resources utilization is consistent with US law under the Commercial Space Launch Competitiveness Act of 2015, which passed the Congress with bipartisan support and was signed into law by President Obama.[6]

This vision is one in which fuel and other resources obtained from the Moon lower the costs of space activities and help to enable new space applications. These two policy goals (the Artemis program and development of commercial space) are linked. It will be through partnership with government space exploration programs that space resources utilization technologies will be developed, and space resources companies will find initial markets.[7] Use of resources has consistently been part of global space exploration strategies prior to the Trump Administration. For example, the 2010 NASA Authorization Act, passed by a Democratic Congress and signed by President Obama, makes several references to the use of resources as a key part of space exploration.[8] Internationally, the Global Space Exploration Roadmap, a product of several international space agencies through the International Space Exploration Coordination Group (ISECG), also refers to ISRU as a critical capability for long-term space exploration.[9]

Properly understood in this context, the executive order is not a policy change for the United States; instead, it is implementation guidance to the State Department and other US agencies. It provides clear and public direction on the need to enable space resources utilization to support the Artemis international engagement strategy. Resolving some of the legal uncertainties around space resources utilization is part of the strategy for achieving the policy goals of the Administration.

The language used in the order concerning opposition to the Moon Agreement and the US objection to discussion of space as a “global commons” is prominently featured, but these positions are not new and in fact [reflect long-standing US policy](#). The order is also a clear statement of the US negotiating and diplomatic position regarding the Moon Agreement and global commons in multilateral discussions of space resources utilization.[10]

**In those multilateral discussions, consensus is slowly emerging that space resources utilization is a permitted use of celestial bodies, rather than their unlawful appropriation.**

In those multilateral discussions, consensus is slowly emerging that space resources utilization is a permitted use of celestial bodies, rather than their unlawful appropriation (outside perhaps of the extreme case of the full consumption of an asteroid.) Questions are now centering on how to govern this type of use. In order to provide effective governance and the legal certainty that governmental programs and commercial operators require, international coordination and agreement will be required. Individual states (including the United States) cannot provide that certainty on a unilateral basis. For example, one cannot create a claims system without some level of mutual recognition and protection of claims, be that on a bilateral, unilateral, or multilateral basis. The executive order should not be understood as a unilateral approach, but rather as a strong signal that the United States intends to seek pragmatic and practical resolution of space resources governance questions.

### **The multilateral context**

The most important multilateral discussions on the use of space resources take place at the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), and especially at the COPUOS Legal Subcommittee. As of 2020, [COPUOS comprises 95 Member States](#), and is one of the largest committees in the UN system. In 2016, upon a proposal by the Belgian delegation, the topic of space resources first appeared as a single-year agenda item of the Legal Subcommittee. Since then, agenda item 15, [General exchange of views on potential legal models for activities in exploration, exploitation and utilization of space resources](#), has received ever-increasing attention by the subcommittee.

Last year at the COPUOS main session, the committee endorsed a proposal put forth by Belgium and Greece nominating Andrzej Misztal of Poland and Steven Freeland of Australia to serve as Moderator and Vice-Moderator of “scheduled informal consultations” with COPUOS Member States on the topic of space resource governance approaches.[11] Their consultations are meant to gather the views of COPUOS Member States on their preferred way forward for the committee’s work on the subject of space resources. These activities within the Legal Subcommittee attest to the increasing attention paid to space resources within COPUOS.

This activity within COPUOS is one of the prompts that we believe gave rise to the executive order—an order that explicitly rejects the Moon Agreement on a number of fronts. Without the context of these discussions at COPUOS, and [the persistent raising of the Moon Agreement there](#), the executive order may seem strange in its strident denunciation of that treaty. The Moon Treaty is widely seen as a failed, problematic treaty, finalized in 1979 but which did not enter into force until 1984 when the minimum required number of states ratified it (five.) Even today no major space power is a party, and [only 18 states are parties to it](#).

The executive order explicitly rejects both the Moon Agreement as expressing customary international law (a non-contentious point) and instructs the State Department to “object to any attempt by any other state or

international organization to treat the Moon Agreement as reflecting or otherwise expressing customary international law.” This denunciation seems also to show a weariness and irritation at the raising of the Moon Agreement within COPUOS as an attractive path forward.

However, this order should not be construed as a renunciation of COPUOS. It is not that the United States is opposed to international discussions within COPUOS regarding the development of any international measures or understandings addressing space resources. Rather, it is that the United States is resistant to the continual pushing for the wider relevance and imposition of the Moon Agreement in those discussions and would prefer a more pragmatic discussion on pressing issues where progress and mutual understanding is possible. To the COPUOS community, Washington cannot make it any clearer: “Stop talking about the Moon Agreement as a path forward. It’s not going to happen.”

**This denunciation seems also to show a weariness and irritation at the raising of the Moon Agreement within COPUOS as an attractive path forward.**

COPUOS remains a key forum for useful talks giving rise to coordinated, consensus-driven principles governing space activities, including the use of space resources. These shared understandings are based on the 1967 Outer Space Treaty, especially the freedoms of Article I, and suited towards fostering the purposes of the treaty listed in its preamble. The US position is of course also informed by the incorporation of the entirety of international law *via* Article III of the Treaty, and the understanding of Article II, by which no use or occupation of outer space, whether the Moon or other celestial bodies—no matter how extensive or persistent—would give rise to a lawful and recognized national appropriation of those domains. To the United States, the access, use, possession, utilization, exploitation, and benefits of space resources is permitted by the Outer Space Treaty, with the understanding that no such access, use, possession, utilization, exploitation, or the occupation of areas *will or could ever* give rise to a national appropriation which Article II explicitly prohibits. Because of Article II, outer space is simply *not subject* to such appropriation attempts. It reads:

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.

#### **In developing new norms, which road to take?**

As the international forum of the peaceful uses of outer space, COPUOS is the established, traditional, and natural place for such discussions and the development and codification of any necessary new norms for space activities. However, no new internationally binding legal instruments have been developed at COPUOS since the Moon Agreement of 1979. Instead, work within COPUOS for the past 40 years has resulted in [other instruments](#), adopted by consensus, and regarded as having normative force.<sup>[12]</sup> For example, the recently-concluded guidelines for the long-term sustainability of outer space activities [is the latest success out of COPUOS](#),<sup>[13]</sup> and shows that a committee of more than 90 states can meaningfully discuss complex issues of spaceflight and reach consensus on best practices on these activities—all without codifying any new rights, obligations, or prohibitions in a legally-binding manner for member states.

But, what work should be done at COPUOS on space resources? The variety of the instruments developed there demonstrates that a new, international binding legal instrument is not the only (or perhaps even the best) method forward. In fact, given the still emerging nature of commercial space resource access and utilization, a binding treaty is likely inappropriate before the actual activity begins and may not even be appropriate thereafter. This is because other approaches exist besides high-level multilateral treaty-making. They include bilateral agreements between two states, minilateral arrangements among a small set of states (for example, the [1998 International Space Station Agreement](#)), and national space law and regulation (the [United States](#) and [Luxembourg](#) space resources laws, for example.)

Which approach is best? A new international treaty, possibly replacing the failed Moon Agreement (a “Space Mining Treaty”)? Or, a COPUOS-led initiative resulting in principles declarations adopted by the UN General Assembly (“Space Resources Principles”), or a resolution from the General Assembly on a specific issue (“Recommendations on the practice of States in space resource activities”)? Or, a minilateral agreement developed outside of COPUOS, and between like-minded states? The further proliferation of national space laws to regulate national space resource activity? Or, a mix of some (or all) of the above?

There are strengths and shortcomings of each of these approaches. A new international treaty done through COPUOS would have widespread legitimacy and could substantially clarify and harmonize rules on a global level. However, once negotiated and adopted, treaties are essentially impossible to alter and therefore run the risk of becoming quickly outdated by advances in technology or scientific findings, as well as economically or politically irrelevant. Setting in stone the rules for a future activity that has not yet occurred seems hasty and ill-advised.

Conversely, purely national approaches such as national space legislation seem attractive, as states can determine for themselves their rights and obligations under international law and tie these understandings to their national interests and priorities. National space legislation is also generally developed faster than international space law. However, a proliferation of national law approaches runs the risk of [fragmenting the international legal order](#), possibly creating problematic inconsistencies between how states view their rights and obligations under international law, and possibly leading to “forum shopping” actions by commercial operators, thereby weakening the system as a whole.

**Identifying and working with other like-minded states is not an end-run around the UN system; it is how most international space cooperation is already done.**

So-called “minilateral” approaches, in the form of international agreements amongst a small number of like-minded states with consistent understandings of space law and complimentary national interests for space, also appear attractive. Minilateral approaches enjoy the expediency of national space legislation, and as they are negotiated amongst several like-minded states, such agreements could not be honestly accused of being merely “unilateral” measures. Lastly, identifying and working with other like-minded states is not an end-run around the UN system; it is how most international space cooperation is already done. Section 3 of the EO 13914 positively encourages such minilateral approaches:

In carrying out this section, the Secretary of State shall seek to negotiate joint statements and bilateral and multilateral arrangements with foreign states regarding safe and sustainable operations for the public and private recovery and use of space resources.

There are currently a variety of views on which avenue the development of new norms for the development of space resources should take. Some commentators are adamant that we need a new treaty, negotiated at COPUOS (*because of*, rather than despite, its size) and then presumably sent to the UN General Assembly as an Annex in a draft resolution for adoption there, just as treaties were done in the 1960s and '70s. Despite the satisfaction this would give international space lawyers that the harmony of international space law remains intact, this approach is politically unlikely. Others in the space industry focused on the commercial development of space resources are less concerned with the applicable rules and might insist on a more *laissez faire* approach, or on purely national laws giving maximum freedom to nongovernmental (commercial) actors. The present authors are in the unenviable position of being in general disagreement with both approaches.

#### **“Bottom-up” vs. “top-down” approaches to norm development**

Thankfully, those who aspire to develop space resources are not the first to ponder this question. In deciding which avenue to pursue, the concept of subsidiarity should prevail. Subsidiarity is a principle of organizational logic that dictates that, for the sake of efficiency and effectiveness, rulemaking should be taken at the lowest necessary level. In other words, for issues that can be solved successfully at the national or regional level, or even amongst like-minded sets of states or commercial actors, there is no rational reason to work exclusively at a high-level multilateral body such as COPUOS. Additionally, for issues of purely state concern, it is not proper for COPUOS to determine how member states should be fulfilling their authorization and supervision obligations. Americans will recognize the logic of subsidiarity in our 10th Amendment, while Europeans see subsidiarity in [the core EU treaties](#). The Catholic Church is seen as [the main historical driver of subsidiarity](#). This approach, of course, leaves open any remaining issues that truly need international agreement for directed consideration at COPUOS or at other international fora.

Another reason to step away from a top-down approach is the importance of hearing from non-state actors, such as industry, academia, and civil society. One such approach is the recently concluded [Hague International Space Resources Governance Working Group](#).<sup>[14]</sup> The group involved more than 30 industry, government, and academia members representing a range of viewpoints: from Moon Agreement parties and traditional spacefaring states to emerging nations and startup companies. From this diverse background all members shared a common goal of creating an enabling legal environment for space resource activities. In November 2019, the Group released [its 20 Building Blocks for the Development of an International Framework on Space Resource Activities](#) (available in English, Chinese, French, Italian, Portuguese, and Spanish via the Group’s website).<sup>[15]</sup>

The Building Blocks “are designed to serve as the basis for a possible international framework, without prejudice to its form and structure.”<sup>[16]</sup> The Building Blocks identify principles and requirements that are, in the opinion of the group’s members, necessary to enable space resources utilization in a manner consistent with international law and providing industry legal certainty. The distinction that the group published the Building Blocks without prejudice to form or structure is important. Implementation of space resources governance will require international coordination, but that coordination might take several forms.

The Building Blocks are unlikely to be implemented in a holistic fashion, but the principles contained within them might be implemented in a combination of multilateral guiding documents, state-to-state agreements (bi- or mini-lateral), and domestic law.

**You wouldn't normally expect the United States, China, and Australia (a Moon Agreement party) to be grouped as like-minded in lunar exploration or commercialization approaches.**

In this regard, the Building Blocks represent a set of principles and topics for which an expert group has identified the need for further implementation. As such, they represent a possible starting point for discussions on taking "all appropriate actions to encourage international support for the public and private recovery and use of resources in outer space, consistent with the policy set forth in section 1 of this order" as Section 3 of EO 13914 directs the US government to do.

### **Towards international support**

US administration officials indicated that this Executive Order means that the United States is willing to pursue conversations with like-minded states towards a stable and predictable legal environment for space resources utilization. In a briefing on the order, a senior administration official identified several potential countries to work with, based on space resources related statements that those countries have made: "We've been hearing positive statements out of Luxembourg, the United Arab Emirates, Canada, Australia, and frankly even China. Of course, there are other problems with China as you're well aware, but even on space resources, China has been open to discussing how to produce a more stable and predictable environment."<sup>[17]</sup>

This group of states is striking for its diversity: you wouldn't normally expect the United States, China, and Australia (a Moon Agreement party) to be grouped as like-minded in lunar exploration or commercialization approaches. However, "like-minded" does not mean that all participants begin from the same standpoint; it means that they are able to identify shared interests and work towards those shared interests.

So what does this intention for bilateral coordination mean, and how will the United States go about engagement? For some of the countries identified, the alignment is clear. The United States and Luxembourg have both passed domestic law enabling space resource utilization, have signed a cooperation agreement related to space commerce, and several space companies have operations in both countries. The United States and Canada have a long history of cooperation on space exploration and [existing technical exchanges](#) related to space resources. Canada's terrestrial mining sector is also [beginning to show interest](#) in space resources activities. Not mentioned by the administration official was Japan, which seemingly would be an oversight. Japan is a key partner in Artemis and is home to one of the more prominent lunar commercialization companies, ispace. US and Japanese officials have already been holding [discussions related to cooperation on sustainable lunar exploration activities](#), including ISRU. Australia and China are somewhat outliers in this group of countries.

Australia was mentioned in connection to the executive order, despite the order's emphasis on moving beyond discussion of the Moon Agreement. In this case, potential cooperation is linked both to Artemis program, and to potentially shared legal interests. Australia has [signed a statement of intent to cooperate with NASA](#) on activities related to Artemis, which might include robotics for ISRU activities. Several universities in Australia have been working on technology development related to ISRU activities, sometimes in cooperation with Australia's significant terrestrial mining sector. On the legal side, while Australia is [a party to the Moon Agreement](#), scholars closely associated with the Australian government [have spoken positively of the need to develop international legal frameworks that address property rights in space activities](#). The United States might find common ground here.

The inclusion of China in discussions of states where implementation of the executive order might seek out common ground is especially intriguing. China is generally seen as a competitor to the United States in space activities, and a certain line of commentary holds that space resources could become a flashpoint in the US-Chinese space relationship.<sup>[18]</sup> Yet Chinese exploration plans for the Moon require the same type of ISRU activities that are part of the Artemis sustainability plan.

US officials have seen Chinese positions on space resources utilization (as expressed in multilateral forums) shift over recent years. Initially, Chinese statements at COPUOS expressed concerns over the legality of US law permitting commercial space resources utilization. Recently, however, Chinese positions have shifted to the view that space resource utilization is a permitted activity.<sup>[19]</sup> As part of that shift, China has expressed a willingness to discuss governance frameworks for space resources activities, and in 2018 entered into a cooperation agreement with Luxembourg which includes economic and political cooperation related to space resources.<sup>[20]</sup> The United States and Luxembourg signed a Memorandum of Understanding in 2019 that similarly includes the possibility of bilateral cooperation in projects of common interest in space resources exploration, exploitation and utilization.<sup>[21]</sup> Far from engaging in a wide-ranging cooperation with China, US officials likely see China's interest in lunar exploration and shift in position as opening a potential situational

ally in moving multilateral space resources discussions beyond rehashing the Moon Agreement, and towards pragmatic discussions.

There is a risk that the language used in this EO 13914—in particular its refutation of the global commons concept and the Moon Agreement—could become associated with President Trump and an “America First” approach.[22] For those “on the fence” on

**Providing private operators legal certainty in space resources utilization activities will fundamentally require international consultation and coordination.**

whether we need a space resources treaty, including like-minded countries eager to develop space resources, this could lead to a renewed interest in the Moon Agreement. This would be regrettable, as space development advocates have long existed before the Trump Administration and understand that ambitions for space will be inherently international.

### Practical work should proceed despite political hurdles

In conclusion, the executive order is consistent with past US policy in international engagement on this topic and seeks to provide legal certainty to US entities. The order is also a clear signal that the United States does not see the Moon Agreement as a practicable path forward. However, the order does not close the door for further discussion and progress on space resources governance in COPUOS, or through other bilateral and multi-party forums. Far from it, in fact. Providing private operators legal certainty in space resources utilization activities will fundamentally require international consultation and coordination. This action by the White House is a step towards defining how US agencies will engage in that process and should be understood as a clearly signaled US interest in moving forward with international discussions of practical steps towards space resources utilization.

However, how this is implemented amidst the range of issues at COPUOS and elsewhere remains to be seen, and geopolitical pressures and politics always have a chance of impacting how norm setting develops. While [this summer’s session of COPUOS has already been delayed](#), when the session begins again, actions like the executive order will be at the top of the list for discussion amongst Member States. Alongside these COPUOS discussions, activity will continue towards Artemis program development and implementation. This activity will certainly include US international engagement and further development of cooperation agreements. As this strategy is executed, the actual operational practices developed for ISRU activities will significantly inform the establishment of applicable norms and principles.

### Endnotes

1. White House, [Executive Order on Encouraging International Support for the Recovery and Use of Space Resources](#), 6 April 2020.
2. White House, [President Donald J. Trump is Encouraging International Support for the Recovery and Use of Space Resources](#), 6 April 2020.
3. See for example: Theresa Hitchens, *Breaking Defense*, [WH Woos Potential Allies, Including China, For Space Mining](#), 6 April 2020; Russian News Agency, [Any attempts to ‘privatize’ outer space unacceptable — Kremlin](#), 7 April 2020; *The National (UAE)*, [Russia says Trump planning to take over planets with new space order](#), 8 April 2020; Manish Pandey and Michael Baggs, BBC Newsbeat, [Why does President Trump want to mine on the Moon?](#), 12 April 2020; Outer Space Institute, [Open Letter to the Canadian Government Concerning Space Resources](#), 20 April 2020.
4. NASA, [Plan for Sustained Lunar Exploration and Development](#), 2 April 2020.
5. See for example: Bob Bryan, *Business Insider*, [Trump’s commerce secretary wants to turn the moon into a ‘gas station for outer space’](#), 22 February 2018.
6. Congress.gov, [H.R.2262 - U.S. Commercial Space Launch Competitiveness Act](#).
7. See e.g. Peter Marquez, *SpaceWatch Global*, [#SpaceWatchGL Perspective On U.S. Space Resources Executive Order: Peter Marquez On The Need For The EO](#).
8. [NASA Authorization Act of 2010](#).
9. International Space Exploration Coordination Group (ISECG), [The Global Exploration Roadmap \(2018\)](#).
10. Henry R. Hertzfeld, Brian Weeden and Christopher Johnson, [How Simple Terms Mislead U.S. —The Pitfalls of Thinking about Outer Space as a Commons](#); It is also worth considering the effect EO 13914 and its effect on the US Department of Defense, which has described the outer space domain as a commons in various documents over the years.
11. United Nations, [Report of the Committee on the Peaceful Uses of Outer Space \(A/74/20\)](#), para. 258.
12. These instruments include the Direct Broadcasting Principles (1982), the Remote Sensing Principles (1986), the Nuclear Power Sources Principles (1992), and the Benefits Declaration (1996). Work at COPUOS has also resulted in later, specifically-focused resolutions adopted by the UN General Assembly: Resolution 59/115 on the application of the concept of the “Launching State” (2004), Resolution 62/101 on enhanced registration practices of space objects (2007), and Resolution 68/74 with recommendations on national space legislation (2013).
13. Committee on the Peaceful Uses of Outer Space, [Report of the Committee on the Peaceful Uses of Outer Space – 62nd Session, Annex II. Guidelines for the Long-term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space \(A/74/20\)](#), Annex II., pg. 50.

14. The authors' organization, Secure World Foundation was a funding Partner and Member of the Hague International Space Resources Working Group.
15. [The Hague International Space Resources Working Group](#), November 2019.
16. The Hague International Space Resources Working Group, April 2020, [Building Blocks for the Development of an International Framework for the Governance of Space Resources Activities: A Commentary](#).
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20. Sarah Scoles, *Wired*, 14 February 2018, [China Wants to Make a Mark in Space—But It'll Need a Little Help](#).
21. Embassy of the United States in Luxembourg, 8 July 2019, [Complete Text of the MoU on Space Cooperation between the U.S. and Luxembourg](#).
22. Sebastien Moranta, *SpaceWatch Global*, [#SpaceWatchGL Perspective On U.S. Space Resources Executive Order: Sebastien Moranta On The EO As An "America First" Policy](#).

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James Lunar Miner · 124 weeks ago

-10

"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." - Outer Space Treaty

Let's be real. I spent nineteen years in China and four years in Taiwan between 1984 and 2018. We cannot effectively resolve and enforce international legal claims and norms in the South China Sea where China aggressively uses its navy and naval militia to brutally kill folks and in attempts to blind and confuse aircraft pilots with laser blasts and yet we want to proclaim Lunar and Space agreements that lack serious, powerful, and effective investigation and enforcement systems on the Moon and across our Solar System? Really?

China is bullying and making threats at those nations who want a careful and thorough investigation of the origins of the corona virus pandemic that has already killed more than 200,000 people. Ultra nationalist China wants and needs economic and military space dominance to ensure its communist dictatorship's economic and military dominance on the Home Planet and it won't be limited by international agreements.

"Peace in our time" agreements with China are meaningless. Hitler did what he wanted to do and communist dictator for life Xi Jinping will also do exactly what he believes will accomplish his ultra nationalist goal of Chinese economic and military dominance, no matter how many people will die in China or across the world or on the Moon to achieve that dominance.

Maybe instead of wasting money on international lawyers, the folks in democratic nations need to spend their money and talent ASAP getting lots of resource exploration robots on the Moon and building highly capable and propellant efficient nuclear thermal rocket engine powered spacecraft for their military and business folks.

Reply [1 reply](#) · active 121 weeks ago

[Report](#)



Oscar Garcia · 121 weeks ago

+2

Well said and insightful reality check about Chinese and communism intent and rules of the game Like any other terrorist nation, China should be excluded from the UN and any other democratic forum about earth and space matters Please spread the word as eloquently as your response As for the US and other free countries, let's keep leading in Space, no consensus needed from any dictatorships!

Reply

[Report](#)



[Dennis OBrien](#) · 124 weeks ago

-14

The Moon Treaty cannot be properly evaluated without an implementation agreement, which Article 11 requires. Please consider the proposed IA by The Space Treaty Project that will support all private activity, not just resource extraction, while protecting essential public policies. It incorporates the recommendations of the Hague Group's Building Blocks and supports the private settlements favored by the NSS and (formerly) the L-5 Society. The U.S. is continuing its pattern of withdrawing from international agreements/efforts, relying instead on the "dominance" model. But we should not throw out the baby with the bathwater. Support the Moon Treaty! For proposed IA, please go to <http://spacetreaty.org/implementationagreementjou..>

[ChrisJohnson](#) 49p · 124 weeks ago

+11

Unfortunately, the Moon Agreement is a mess of inconsistencies and vagaries. Article XI.3 reads as follows. What further 'evaluation' does anyone need?

'Neither the surface nor the subsurface of the Moon, nor any part thereof or natural resources in place, shall become property of any State, international intergovernmental or non-governmental organization, national organization or non-governmental entity or of any natural person.'

I stand by what I wrote. Politically, the Moon Agreement is haunted. Let it be. We need to move on, and do better.

Reply

[Report](#)[vidbeldavs](#) 89p · 124 weeks ago

-4

In place means in place. When the resource is no longer "in place" it can become property. The international regime to govern rights to extract resources in place is called for in Article 11-5. The point of 11-3 is that there is no bypassing Article II of OSI in the absence of the international regime negotiated by the States Parties. The international regime is called for as "exploitation of lunar resources is about to become feasible." Clearly this is not technical feasibility but rather economic feasibility, that lunar resources can be sold to generate a return on investment.

Until feasibility is about to happen Article 6-2 however indicates that States Parties can remove lunar materials for use in their missions. In such a case the limited number of countries likely to operate on the Moon at the early stages can execute bilateral agreements among the parties to assure non-interference and other concerns as well as to arrange for possible use of shared infrastructure such as communications and positioning or potential energy.

Reply

[Report](#)[ChrisJohnson](#) 49p · 123 weeks ago

+6

Basically all of what you have written is a subjective interpretation, offered by a single, non-state entity (you). It may, or may not, be what the law actually means. It might mean the opposite of what you write. There is nothing in the text to prove you are correct, or to disprove you, conclusively. However, I see no evidence of treaty interpretation done under the rules of the Vienna Convention on the Law of Treaties in your statement.

The indeterminate, inconsistent, and subjective nature of the Moon Agreement is precisely why it is a poorly finalized treaty. Again, we need to move on, and do better.

Reply

[Report](#)

Guest · 124 weeks ago

+8

The Moon Agreement allows a nation to withdraw from it at anytime with one year's notice. It would be nice to see Australia start a trend by doing so.

Reply

[Report](#)[vidbeldavs](#) 89p · 124 weeks ago

-8

Thanks to the authors for this in depth review of the "Executive Order on Encouraging International Support for the Recovery and Use of Space Resources."

The sole reason that the Moon Agreement is seen by many as a "failed treaty" is because of the acrimony surrounding the failed ratification by the U.S. in 1980. The Treaty was approved by a unanimous decision of COPUOS in 1979 followed by a unanimous approval by the UN General Assembly. The clause in Article 11, par. 5 "The moon and its natural resources are the common heritage of mankind, which finds its expression in the provisions of this Agreement" that led to failure to ratify was entered into the text by the chief U.S. negotiator Neil Hosenball. Leigh Ratiner, the L5 lobbyist, who also served as a lobbyist for the mining industry in Law of the Sea negotiations, saw this clause as the only problem with the Treaty. His report in the L5 News stated that if a protocol could be agreed to interpreting "common heritage of mankind" as used in the Moon Treaty fully reflecting U.S. (mining industry) interests, he saw no problem with the Treaty. Regrettably, L5 did not talk with Hosenball but rather misinterpreted the Treaty and with the change in administration with the 1980 election space resources use was no longer a priority political question.

Hosenball did not see negotiation of the international regime (rules governing use of space resources) until after this would become feasible. By implication this is economic rather technical feasibility because the Treaty anticipates use of lunar resources prior to the negotiation of the international regime. Article 6, par. 2 is clear "States Parties may in the course of scientific investigations also use mineral and other substances of the moon in quantities appropriate for the support of their missions". This language permits the use of lunar resources with no limits defined in support of space missions. Artemis would see no restrictions imposed by the Moon Treaty.

COPUOS is the UN designated body that prepares matters relating to peaceful uses of outer space for the UN General Assembly. If a matter is to become globally relevant it must first appear within the COPUOS forum. However, the Moon Treaty has already been approved by the General Assembly. The States Parties convene the forum to negotiate the rules that make up the international regime according to the process that will be defined by the States Parties. Article 18 also shows that Hosenball and other Moon Treaty negotiators anticipated modifications to the Treaty which can be made by majority vote. Not as difficult as suggested by the above article. The Moon Treaty is the simplest, most straightforward path to negotiate rules to govern use of outer space resources to create the legal certainty needed for long term business investments.





roscoeroscoe · 124 weeks ago

-1

I agree with you to a great extent, but I'm afraid this is one of many areas that show how far things have changed since Hosenball represented the Nixon administration in negotiating for the Moon Treaty (the same Nixon administration that created the Environmental Protection Agency). It seems to be an era of reactionary politics, and the Moon Treaty has been seen as a quaint notion like peace or international cooperation by some. A real shame.

I've always felt the international treaties regarding space were a real achievement. The alternative process put forth here in this article may keep the international process going forward. I would hope that the countries and firms that are able to make it to the Moon and achieve the goal of lunar settlement honor the spirit of the Moon Agreement, and find a way to include and benefit the developing nations.

Reply

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Kieran A. Carroll · 124 weeks ago

+6

"If a matter is to become globally relevant it must first appear within the COPUOS forum." This is a silly statement. Just one example of why: SpaceX's re-useable Falcon 9 rockets are certainly "globally relevant," in that they have forced a major restructuring of the world's launch-services marketplace. But they did not "first appear within the COPUOS forum" — SpaceX took the initiative on developing these, not even asking for guidance or permission from NASA (let alone COPUOS). Of course, if they had (for some strange reason) decided to raise their concepts at COPUOS, they likely wouldn't even have made it onto the agenda; and if they had, the COPUOS delegates would still be debating the form of the eventual future debate on these.

Sorry (sort of) for the sarcasm. The point is, that the \*main\* thing that makes any particular activity in space "globally relevant," is \*someone carrying out that activity\*. This has been true since the launch of Sputnik 1. All important activities in space have proceeded via someone acting first, then discussing them internationally later. (In saying that, of course, I except the discussions between space-development enthusiasts worldwide, in technical fora such as the IAC, which are where most such ideas are \*really\* first discussed. Discussions by government diplomats always lag far behind.)

Reply

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vidbeldavs 89p · 124 weeks ago

-9

Thanks to the authors for this in depth review of the "Executive Order on Encouraging International Support for the Recovery and Use of Space Resources."

The Executive Order attempts to address the problem of a lack of a clear process to develop rules to govern the use of outer space resources by attacking the Moon Treaty, as if its existence has blocked progress. The reality is that the Moon Treaty presents a straightforward process called for in Article 11.5 - "States Parties to this Agreement hereby undertake to establish an international regime, including appropriate procedures, to govern the exploitation of the natural resources of the moon as such exploitation is about to become feasible. This provision shall be implemented in accordance with article 18 of this Agreement." The forum is to be formed by the States Parties rather than COPUOS. The decision process to negotiate the rules will be determined by the States Parties.

In Article 6.-2, the Treaty permits States Parties to "use mineral and other substances of the moon in quantities appropriate for the support of their missions" independent of agreement on the rules of the international regime. The Artemis Mission could remove 100,000 tons for its mission needs and be fully compliant with the Treaty.

There is no internationally agreed to forum or process defined by the Executive Order for undertaking the negotiations of the rules to govern recovery and use of space resources. In principle it could lead to mini-treaties negotiated among 2 or more parties to govern their use of lunar resources. But, it could not result in a rules-based order to govern use of outer space resources. To achieve that the process would have to either be conducted thru COPUOS with its decision rules requiring unanimous agreement, or thru the Moon Treaty with its straightforward process.

The Moon Treaty was unanimously approved by COPUOS and by the UN General Assembly. The rules that make up the international regime called for by the Treaty would have this strong level of international approval important for businesses making long term investments in space. Widespread criticism of the Executive Order indicates that achieving consensus thru this process is likely to be difficult and protracted.

The only problem with the Moon Treaty identified in the Executive Order is reference in the Treaty to the "common heritage of mankind". This clause was inserted in the Treaty at the insistence of the U.S. and opposed by the USSR. In Article 11-1 the Treaty indicates that the clause is to be interpreted thru the rules to be negotiated in the international regime rather than to any external body of law to the Treaty. The Treaty emphasizes in Articles 11-5 as well as Article 18 that the terms of the Treaty are subject to change whether due to technology or other reasons. Article 18 in fact assumes that Treaty will need to be reviewed within a decade or more often. The Treaty can be amended by majority vote of the States Parties.

The Moon Treaty is highly flexible and does not impose the idea that space is a commons, although the States Parties could agree to such a definition in the process of negotiating the rules that comprise the international regime.

It would be inspiring if President Trump affirmed the UN Space Agenda 2030 whose theme is "space a driver of sustainable development" and called for lunar development as a goal within Space Agenda 2030. This is what is proposed in the International Lunar Decade. What specific rules countries agree to for use lunar resources and how they set the rules is a detail. Most important is that the U.S. declare its support for international cooperation in lunar development within the UN Space Agenda 2030 that is expected to be approved by the General Assembly at the upcoming session.

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