



SPACE GENERATION
ADVISORY COUNCIL

Perspective Blog

2024 Space Generation Fusion Forum - IPASS Report Recommendations

NCAC Task Force, Space Generation Advocacy & Policy Platform

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NCAC Task Force members Cari Reinert and Kryn Ambs attended the 2024 [Space Generation Fusion Forum \(SGFF\)](#) to serve as Subject Matter Experts on Space Policy and Sustainability, working with the SGFF delegates to compose strategies for implementing the Intergenerational Pact for Space Sustainability (IPASS) [1]. As part of the Space Generation Advocacy and Policy Platform (SGAPP), the NCAC Task Force works to consider ways to implement reports such as the IPASS. By attending SGFF, our team collaborated with the SGAC delegates to identify implementable policy positions that are in line with the IPASS.



Space Generation Fusion Forum

SGFF is a multi-day, fast-paced professional development and networking event focused on the global space industry. Students and young professionals from around the world who are involved in many facets of the space industry attend SGFF each year as delegates.

Through specialized working groups at SGFF, the delegates coalesce their unique perspectives and backgrounds into solutions to challenges faced by the global space community. These solutions are then compiled into a report for the United Nations Committee on the Peaceful Uses of Outer Space, which is presented at the Committee's annual General Assembly and at other international gatherings, such as the Summit for the Future.

IPASS Report

Recognizing the criticality of a shared future in space, the Space Generation Advisory Council (SGAC) called for a team to generate a report that supports the "elaboration of a sustainability pact between generations; one that will foster synergy between space stakeholders and raise awareness on the necessity to achieve space sustainability." [1]

From this call to action the Intergenerational Pact for Space Sustainability (IPASS) report was developed under SGAC's Space Generation Advocacy and Policy Platform (SGAPP). The report serves to "articulate the organization's vision for a safe and sustainable space environment, fostering unity within the global space community." The IPASS report identified the following



key topics as the most pressing to be addressed by policymakers as they pertain to long-term sustainability of space activities: Space Debris, Mega-Constellations, Dark and Quiet Skies, and Challenges Beyond Earth.

Delegate Recommendations

During SGFF, the delegates held breakout sessions to identify key recommendations for the implementation of the IPASS report. As opposed to honing in on one specific IPASS topic, delegates took a broader approach, launching important discussions on what factors needed to be addressed before pertinent frameworks could be developed and implemented.

It was determined that a more specific, achievable, and measurable definition of space sustainability should be established and adopted by space actors. The delegates defined space sustainability as the *ability for all actors, present and future, to access and use space*, emphasizing the importance of defining finite resources such that implementable policies can be measured against agreed-upon criteria. This would enable the effectiveness of policies to be analyzed to ensure resource availability and accessibility for all stakeholders. It is important to conduct such policy analyses to further determine impacts to stakeholders considering contrasting national capabilities in the region. While all stakeholders should strive to meet the same sustainability goals, not every stakeholder's activity in space is equal; some may have more technology and businesses in space compared to others. The delegates recommended making space metrics per country, which would be based on that country's previous performance. This would facilitate trade studies for alternative solutions, ensuring policies are equitable and effective.

In correlation to this definition, the delegates recognized the importance of equitable allocation of finite resources, and the need to prioritize these resources in terms of urgency due to "...existing contested situations." Thus, the delegates identified the following as necessary resources space actors require to engage in the space domain and economy:

- **Space used in an orbital regime** (economically valuable/strategic orbits, GEO, LEO, SSO)
- Electromagnetic **spectrum allocation** (Deconfliction in optical and radio frequencies)
- **Access to space** (e.g. launch cadence, upmass & downmass capabilities, land allocation)
- Terrestrial **value chain resources** (raw material, commodities, labor, education, energy)
- **Shared Earth resources** such as atmosphere and oceans that are affected by launch and deorbiting of satellites
- **Dark sky** observing area (heritage, astronomy)
- **Space situational information** (i.e. actors cannot make sustainable-optimal decisions unless they understand and know what other actors are doing or will do)

The delegates further determined that the careful consideration and inclusion of both current and future stakeholders is a critical proponent of this effort. Highlighting the importance of



understanding those who will be impacted by space activities, the Delegates identified the following key stakeholders:

- National **state actors** that have an interest in preserving national security and international relations through space
- **Incumbent commercial space operators** that design, test, own, operate, and rely on space assets
- Countries with **nascent and emerging capabilities** in space and their potential for participating in the space landscape
- Youth and **future generations** who will inherit the space landscape
- **Local and regional communities** with professional, cultural, historical, and social relevance in the night sky
- **Local and regional communities** affected by launch activities

In conclusion, the following recommendations were made by the delegates, as it pertains to implementing policy frameworks for space sustainability:

- A definition of Space Sustainability should be created. The definition should be executable, achievable, and measurable.
 - “Space sustainability is the ability for all actors, present and future, to access and use space.”
- Define which space resources are finite and ensure implemented space sustainability policies can be measured against agreed upon criteria.
- A metric for monitoring the progress of sustainability among actors should be created to serve as a baseline for future decision making.
- A roadmap for the implementation of enforcement mechanisms should be created to promote space sustainability as a consensus of stakeholders.
- The industry, at large, should embrace good behavior that promotes global space sustainability including: respecting dedicated orbital spaces, designing and implementing proactive deorbit plans, embracing ephemeris transparency, and adopting future space sustainability policies and guidelines.

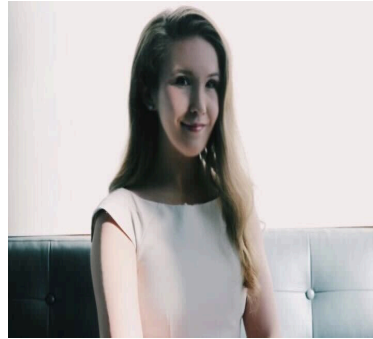


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Cari serves as the Program Coordinator of Space Commerce Institute at Space Foundation. She graduated from the University of Texas at Dallas with her B.S. in International Political Economy and has held internships with NASA Headquarters, the Aerospace Corporation, and BryceTech. Cari is also a 2023 Brooke Owens Fellow.



Kryn serves as a Payload Mission Manager at Axiom Space and a 2018 Brooke Owens Fellow. She received a B.S. in Aviation from Eastern Michigan University, a B.S. in Spaceflight Operations & Human Factors from Embry-Riddle Aeronautical University, and a Graduate Certificate in Commercial Space Studies, a program jointly led by the International Space University (ISU) and Florida Institute of Technology (FIT).

References

[1] Space Generation Advisory Council. "Towards an Intergenerational Pact for Space Sustainability (IPASS)." Accessed April 14, 2024.

<https://spacegeneration.org/wp-content/uploads/2024/01/SGAC-Report-Towards-an-Intergenerational-Pact-for-Space-Sustainability-IPASS.pdf>.