



SPACE GENERATION
ADVISORY COUNCIL

This Is Our Space: Contributions from the Young Generations for Sustainable Space Activities

SGAC Policy Overview

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SGAC For Space Sustainability

The Space Generation Advisory Council (SGAC) is a global non-governmental, non-profit (US 501(c)3) organisation and network which aims to represent university students and young space professionals ages 18-35 to the United Nations, space agencies, industry, and academia. As an organisation of students and young professionals, SGAC is committed to contributing to the development of sustainable space operations through a variety of initiatives, such as working groups and events. In 2021, SGAC created the Space Generation Advocacy & Policy Platform to centralise and coordinate policy and advocacy efforts throughout the organisation. In light of the key importance of space sustainability for the young generation, in 2022, SGAPP established a dedicated Policy Working Group on "SGAC for Space Sustainability" to develop a comprehensive overview of SGAC's initiatives on space sustainability. This executive summary provides a snapshot of that work.

WORKING GROUP TEAM MEMBERS

Name	Nationality	Background
Antonio Carlo	Italy	Space Law & Policy
Morgane Lecas	France	Space Sustainability
Nicolas Moraitis	Greece	Space Law & Policy
Mishti Das	USA	Astrophysics & Public Policy
Brenda Garcia Gonzalez	Mexico	Environmental Science
Gabrielle Leterre	France	Space Law & Policy
Jamila Mendoza	Norway	Business Development & Compliance
Trevor Owen	USA	Aerospace Engineering
Dhanusshya Raghu	India	Mathematics

Space Sustainability

Space sustainability is **the** challenge of our times. Broadly speaking, it can be defined as the practice of ensuring that space activities can be conducted indefinitely into the future in a way that benefits all countries and preserves the outer space environment for future generations. The concept has been recognised globally, with various international and regional agreements, such as the United Nations Committee on Peaceful Uses of Outer Space's Working Group on the Long-Term Sustainability of Outer Space Activities,

established in 2010, and the 1992 United Nations Conference on Environment and Development, both of which aim to improve sustainability and establish voluntary guidelines for outer space activities. The practice of space sustainability involves balancing environmental, economic, and social aspects of space activities, and can include solutions such as design for demise, passivation and deorbiting of spacecraft, transparency and space situational awareness, and the protection of national assets and critical infrastructures. While space programmes have historically focused on individual missions, there is now a trend towards a more comprehensive approach to sustainable space operations. This shift is exemplified by policy initiatives from various space actors, such as the US In-Space Servicing, Assembly, and Manufacturing National Strategy, and efforts by private companies like LeoLabs and Astroscale to develop technologies for collision avoidance and end-of-life servicing. While there are challenges to achieving sustainability in space, such as the lack of a clear, internationally agreed-upon definition of sustainability and the need to balance economic, social, and environmental factors, it is possible to work towards a sustainable future for humanity in space through responsible resource management, transparency and information sharing, and international cooperation and coordination.

SGAPP's work on space sustainability

The SGAPP Policy Division on Space Sustainability conducted a comprehensive survey and a series of interviews to assess awareness and interest in sustainable space operations among members and to understand the role of sustainability in SGAC projects, with the ultimate goal to identify relevant initiatives, find synergies and encourage collaboration.

Based upon the conducted survey and interviews, the SGAPP Working Group identified three kinds of initiatives: projects, events and other activities. One of the most relevant sustainability initiatives within SGAC's Project Groups is the work of the Sustainability in Space PG. This group has several active projects, including an annual essay competition, an on-Orbit Servicing Study, a newsletter, a project on the United Nations Sustainable Development Goals, and a project on the database of the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS). The Sustainability in Space PG also collaborates with the Space Law & Policy PG on topics such as the legal implications of the On-Orbit Servicing Study. The Space Law & Policy PG is also working on the implementation of the Long-Term Sustainability (LTS) Guidelines and on issues related to small constellations and the protection of dark and quiet skies. Other Project Groups, such as the Small Satellites PG and the Cybersecurity PG, are also working on sustainability projects and are interested in collaborating with other groups on these matters.

SGAC also organises events related to sustainability, such as the annual Space Sustainability workshop and the Space Sustainability Hackathon. These events bring together young professionals and experts to discuss and work on solutions to challenges related to sustainability in space. In addition, SGAC's Executive Committee and other groups within the organisation are involved in various activities related to sustainability, such as the development of a sustainability framework and the promotion of the LTS Guidelines.

Key findings & Next steps

Overall, SGAC's initiatives in the area of sustainability are diverse and cover a range of topics, including space debris management, space law and policy, cybersecurity, and small satellites. Through its work, SGAC is contributing to the advancement of knowledge and practices related to sustainability in the space sector, and is engaging young professionals in efforts to ensure the long-term sustainability of outer space.

Building upon the comprehensive assessment conducted by the Sustainability WG, in 2023 SGAPP will endeavour to develop a Policy Position outlining the organisation's values and ideals on space sustainability on behalf of the space youth.

