

Space for Climate: Recommendations for COP28

OCTOBER 2023

As the world works to realize net-zero emissions, the need for credible, actionable and open greenhouse gas (GHG) emissions data has become of critical importance. Space capabilities, including the associated data infrastructure and analytics, have the potential to provide this data reliably and consistently.

The world needs to move towards greater integration of space capabilities into global, national and local net-zero strategies. It is also time for the global space community to step up and contribute its significant technical capabilities to this planetary challenge in new ways. Space capabilities provide the data and science to understand the nature and magnitude of the challenge, and they can also provide open data solutions to better track global progress towards net-zero emissions.

The World Economic Forum's Global Future Council on the Future of Space urges that space solutions be actively considered as an important part of the decision- and policy-making process.

Earth observation satellites have a unique characteristic: they provide monitoring and measurement technologies that allow for standardized, continuous and affordable observations across the entirety of the planet. Currently, government and commercial satellites are already providing GHG observations, and, within the next year, more governmental, commercial and non-profit satellites will be launched, with multiple entities offering open data free of charge.

More satellites, coupled with advancements in related technologies, will result in more detailed information on emissions and their sources. These advancements will complement other monitoring technologies such as ground and airborne sensors, increasing the ability to achieve a reliable global monitoring system, as well as provide for better governance and corrective actions.

These space capabilities will transform the monitoring of GHG emissions worldwide. The Council urges countries, the private sector, and global organizations to familiarize themselves with these capabilities and learn how they can be utilized to support their net-zero strategies.

Global institutions are already stepping up to support the use of these systems for net-zero applications. In the future, other coordinated global efforts could be envisioned for GHG emissions monitoring that could be developed through the contributions of multiple countries.

The Council urges global leaders to discuss the potential of space technologies and systems to be developed and operated through international cooperation through one large system or the integration of multiple systems. Additionally, consideration should be given to how data generated by space assets can be made available globally and transparently.

In addition to these recommendations, the Council also suggests specific actions as potential contributions, perhaps as part of the COP28 Presidency. This includes the need to:

- Invest in GHG observation systems, including data infrastructure, and analytics to ensure transparency, accessibility and economic development purposes.
- Develop aligned frameworks for GHG emissions satellite and in situ (or ground/terrestrial) monitoring technologies, and data and quantification standards and frameworks, to allow for data consistency and accessibility across countries, companies and non-profits.
- Fund pilot programmes at national, regional and local levels to build technical capacity within countries and governments to enable use of and experimentation with GHG emissions observation capabilities, including satellite and in situ (or ground/terrestrial) data.
- Foster activities and coordination among international working groups and organizations to allow for technical deliberation and discussion to advance next-generation GHG emissions satellite and in situ observation (or ground/terrestrial) capabilities.

Now is the time to bring space solutions for net zero to the table at COP28.

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Please see [Space for Net-Zero](#) publication for further details