



The Space Force's relevance to the green agenda

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When most Americans think about Space Force, they probably imagine epic space battles or sprawling science fiction sagas. Policymakers who are more “in the know” likely think about the duties and functions that will preoccupy the U.S. military's newest branch in the years ahead. But few, if any, pause to consider that the USSF has the potential to play in another arena as well: that of climate change. This is because, while most don't know it, the Space Force is positioned to be among the most powerful organizations enabling and advancing a global green agenda.

After all, it is the USSF that operates the global positioning system (GPS), one of the world's most powerful green technologies. Since its advent in the 1970s, GPS-enabled navigation has facilitated global sea, land and air transport and reduced global fuel expenditures by between 15 and 21 percent. That figure dwarfs the incremental gains now being sought by advocates of reduced carbon emissions and makes the USSF the operator of the world's most powerful green technology.

But the service is also doing more in this domain. The USSF, for instance, is taking the lead on what will become the ultimate green energy technology: space-based solar power. Ignored for decades by both NASA and the Department of Energy, space-based solar power is unique as a renewable energy source because it is far more efficient than its terrestrial counterpart and requires much less land. Moreover, its vast availability would allow a mature system to meet current global demand many times over.

By delivering power directly to where it is needed, space-based solar power — once mature — would enable us to provide developing nations with a non-combustion energy source, substantially reducing the impact of economic development on the environment. It could likewise enable rural electrification, obviating the need for carbon-intensive cooking practices such as burning wood and cow dung. And, since it eliminates the need for miles of forest-disrupting roads and power lines, it could also be used to make fresh water, alleviating scarcity and suffering for millions.

Just as GPS began as military research but broadened to become a global public utility, so too could current research one day unlock a carbon-free energy source capable of meeting 100 percent of global demand. And it is the Space Force that is pioneering its development.

Yet, there's still more. The USSF is also at the center of climate intelligence, helping us to know both about our weather patterns on Earth, and about the space weather — activity of the Sun — which impacts our biosphere. There would not even be a global green movement had it not been for early military space research to photograph our weather, which gave us our first view of our planet in the 1960s. Some six decades later, U.S. Space Force weather satellites continue to give us knowledge critical to understanding our climate and to managing our impact on it.

The Space Force also plays a pivotal role in protecting the space environment itself. It provides traffic alerts to prevent satellite collisions (and therefore space debris), and it helps to develop norms of behavior that regulate the space information services which increasingly monitor our terrestrial environment.

Militaries are, of course, concerned about climate security and human security. Yet their first focus — and the one driving all of these innovations — is national security. As is the case with most tools and technology, something built for one purpose ends up being useful for other purposes. Military space technology has and will continue to advance the security of Earth's climate and biosphere. It can also help the United States to secure a better, and greener, future.

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