

Topics (T)
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THE US FCC 5-YEAR RULE: IS IT DETRIMENTAL FOR CLIMATE CHANGE?

Abstract

In the recent decade, mega satellite constellations provided a cheap, effective model for global coverage including burning satellites at the end of their life in the atmosphere followed by replacing them with less expensive, updated models. In the United States, the FCC determined that requiring satellites to be replaced every 5 years would be the most effective policy to reduce space debris and preserve the space environment. Unfortunately, in recent studies such as Shutler, J. X. Yan, Cnossen, I. et al., show that atmospheric impacts of the space industry require oversight. Nat. Geosci. 15:598-600. 2022 suggest that combustion in the atmosphere of these metals directly contributes to climate change through ozone depletion and nitric oxide emissions. For that reason, burning small satellites in the atmosphere regularly as a part of regular constellation operations is an ill-conceived policy as we fight contributors to these environmental global problems from the surface of the earth. A clear, environmental assessment is necessary to challenge the FCC policy and determine whether a push towards sustainability in-orbit (life extension, repairing or recycling) are the policies necessary to reduce both space debris created, and toxins released in the atmosphere in the life cycle of our satellites and other spacecraft.