### Opensource

#### Interpretation: Debaters competing at a TOC bid-distributing tournament must have a wiki page with the same name as the school they compete under in Tabroom.

#### Violation: see screenshot, they do not have a wiki.

Graphical user interface, application

Description automatically generated

#### Standards:

#### 1] Safety – contact information is key to communicating before the round about trigger warnings or other accommodations for people like debaters with disabilities, which could cause serious in round violence. That’s an independent voter to inclusion since we can’t have debate unless ppl are included within the space

#### 2] Debate resource inequities—you’ll say people will steal cards, but that’s good—it’s the only way to truly level the playing field for students such as novices in under-privileged programs – it equals the playing field.

#### 3] Evidence ethics – open source is the only way to verify pre-round that cards aren’t miscut or highlighted or bracketed unethically. That’s a voter – maintaining ethical ev practices is key to being good academics and we should be able to verify you didn’t cheat

#### 4] Depth of clash – it allows debaters to have nuanced researched objections to their opponents evidence before the round at a much faster rate, which leads to higher quality ev comparison – outweighs cause thinking on your feet is NUQ but the best quality responses come from full access.

#### Voters:

#### Fairness: it’s constitutive of activities with wins and losses

#### Education – it’s the reason school fund debate and host tournaments

#### DTD – a) deter future abuse and set norms b) my strat has already been skewed

#### CI: a) reasonability arbirtrary and causes judge intervention since we don’t know you abuse meter b) creates a race to the top where we set the best norms for debate

#### No RVIS a) illogical – you don’t win for proving you’re fair b) incentivize baiting theory and prepping it out which leads to abusive practices

### 2

#### OST Credibility is high now – no violations.

Stuart 17 Jill Stuart 1-27-2017 "The Outer Space Treaty has been remarkably successful – but is it fit for the modern age?" <https://theconversation.com/the-outer-space-treaty-has-been-remarkably-successful-but-is-it-fit-for-the-modern-age-71381> (Visiting Fellow, Department of Government, London School of Economics and Political Science)//Elmer

Space exploration is governed by a complex series of international treaties and agreements which have been in place for years. The first and probably most important of them celebrates its 50th anniversary on January 27 – The Outer Space Treaty. This treaty, which was signed in 1967, was agreed through the United Nations, and today it remain as the “constitution” of outer space. It has been signed and made official, or ratified, by 105 countries across the world. The treaty has worked well so far but challenges have increasingly started to crop up. So will it survive another 50 years? The Outer Space Treaty, like all international law, is technically binding to those countries who sign up to it. But the obvious lack of “space police” means that it cannot be practically enforced. So a country, individual or company could simply ignore it if they so wished. Implications for not complying could include sanctions, but mainly a lack of legitimacy and respect which is of importance in the international arena. However it is interesting that, over the 50 years of it’s existence, the treaty has never actually been violated. Although many practical challenges have been made – these have always been made with pars of the treaty in mind, rather than seeking to undermine it entirely.

#### Normal Means requires amending the OST – that causes a runaway amendment convention.

Vedda 18 Jim Vedda May 2018 <https://aerospace.org/sites/default/files/2018-05/OuterSpaceTreaty.pdf> (senior policy analyst, PhD in Political Science at University of Florida)//Elmer

Treaty Amendment. If decisionmakers conclude that the Outer Space Treaty isn’t broken but is just showing its age, targeted changes are an obvious solution—especially in the areas of orbital debris, space salvage, and resource rights, as noted earlier; however, the process of reaching consensus on changes would entail years of diplomatic effort, with no guarantee that the end result would be better than (or as good as) what exists today. The amendment process may not remain limited to the one or two issues that prompted it. The U.N. Committee on the Peaceful Uses of Outer Space has 84 member countries,11 any of which could bring up its own amendments, which could be objectionable to the major stakeholders. Several countries, including China and Russia, have proposed treaty language that would ban all weapons in space,12 a position opposed by the United States. There is a strong possibility that similar language would be submitted as an amendment if the treaty were to be opened for revision. This could bog down the process and derail prospects for achievement in the specific areas originally targeted. In May 2017, the Senate space subcommittee held a hearing on the Outer Space Treaty,13 specifically asking whether it needed amendment to remove roadblocks to space commerce. All seven witnesses—with backgrounds in law, business consulting, and space entrepreneurship—testified that there is no need to amend the treaty, and attempting to do so could leave industry worse off. They described the treaty as minimally burdensome, and emphasized that priority should be given instead to making the U.S. licensing and regulation regime for space commerce more stable, predictable, and transparent. This is not to suggest that amendments should never be attempted, but rather that the amendment process must be undertaken with eyes wide open. The Outer Space Treaty and other space agreements exist in a dynamic environment. Technology continues to advance, and the amount and type of space activity keeps changing— so treaties may need periodic updating. But at present, higher priority should be assigned to development of a well-reasoned and comprehensive national space strategy.

#### That wrecks the OST.

Melroy 17 Pamela Melroy 5-23-2017 “Reopening the American Frontier: Exploring How the Outer Space Treaty Will Impact American Commerce and Settlement in Space” <https://www.hsdl.org/?abstract&did=807259> (Retired NASA Astronaut)//Elmer

There are many exciting activities and proposals in commercial space. With respect to the Outer Space Treaty, I am deeply concerned that we would be opening a Pandora’s Box by attempting to change it. My concern is that the likely outcome would be a lack of consensus, resulting in no amendments. Instead, we will have a weakened dedication to the Principles of the Treaty and the sustainability of space. Great changes are occurring and many countries are developing capabilities that previously were the purview of only a few nation states. Our ability to compete both economically and technologically in space is crucial. These Principles form the basis for the dialog that we have with other countries about what is appropriate and what is not. Without them, the dialog becomes chaos.

#### Credible OST solves Space War.

Johnson 17 Christopher Johnson 1-23-2017 “The Outer Space Treaty at 50” , <http://thespacereview.com/article/3155/1> (graduate of Leiden University’s International Institute of Air and Space Law and the International Space University)//Elmer

As mentioned, many of the provisions of the Outer Space Treaty were borrowed from previous UN General Assembly resolutions. But as resolutions alone, these documents were non-binding and did not require states to alter their behavior. And while UN General Assembly resolutions are not normally law-making exercises, they do record the commonly-held expression of intentions by the states in the General Assembly, and make political recommendations to UNGA Members (or to the UN Security Council). UNGA Resolutions can also set priorities and mold opinion for inclusion in subsequent treaties. The prohibition on the placement of nuclear weapons and other weapons of mass destruction in outer space or their installation on celestial bodies was taken from UNGA Resolution 1884 of 1963. The resolution: [s]olemnly calls upon all States… [t]o refrain from placing in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, installing such weapons on celestial bodies, or stationing such weapons in outer space in any other manner. This prohibition was transferred to the Outer Space Treaty, and thereby remade into international treaty law. As President Johnson pointed out in his recommendation to Congress to ratify the Outer Space Treaty, “the realms of space should forever remain realms of peace.”5 He continued: We know the gains of cooperation. We know the losses of the failure to cooperate. If we fail now to apply the lessons we have learned, or even if we delay their application, we know that the advances into space may only mean adding a new dimension to warfare. If, however, we proceed along the orderly course of full cooperation we shall, by the very fact of cooperation, make the most substantial contribution toward perfecting peace.6 The agreement contained in Article IV of the Outer Space Treaty reflects an agreement between the US and the USSR, as obligations restricting their freedom of action. Why would a state intentionally place a restriction on itself? Isn’t it better to merely keep outer space as unregulated as possible? Since there were only two states then capable of venturing into outer space, why did either state agree to rules governing its actions? It may seem counterintuitive, but the deeper rationale behind security arrangements like this is that the parties actually benefit in the long-term from placing mutual restrictions on their behavior. Agreeing to restrict your freedom of action has deep links to the usefulness or utility of law itself. Consider driving a car: in order to get a license, you agree to observe certain rules, and the license signals your obligation to obey these rules. However, sometimes adhering to those rules is not only inconvenient (such as stopping at stop signs when there’s nobody else at the intersection), it is also against your short term-interests (you have an appointment or will otherwise suffer from observing the rules.) However, agreeing to operate within a system where your freedoms are sometimes restricted can have the effect of actually increasing your freedom over the long term. Wouldn’t you rather live in a state where traffic laws exist, and other drivers agree to observe them? Isn’t that system preferable to living in a state without traffic rules? Indeed, a system with traffic rules increases not just freedom in general, but overall safety and orderliness. Consequently, because the system with rules is preferable to the system without rules, your willingness to use the roads allows you to travel with greater security and ease. You are better assured of the likelihood that you will get to your intended destination without some other driver crashing into you. Knowing that safe travel is likely, you are more willing to take trips more often, and to farther destinations. Your freedom is actually increased over the long term because you are willing to suffer temporary, short-term restrictions such as inconvenient red lights. Long-term rationality warrants adherence to efficient systems of law. Correctly-balanced rules help increase long-term benefits (like safety and security) that would otherwise be unattainable without a system of rules. It is this rationale that also underpins international treaty-making. Today, the current absence of nuclear weapons or other weapons of mass destruction in outer space attests to the bargain struck in the Outer Space Treaty being a successful one, where security (and the liberty and freedom possible with security) were furthered by the mutual exchange of restrictions that states placed upon themselves. The more than 50 years of peaceful uses of outer space, including cooperation between states who remain rivals elsewhere, are the rich long-term gains resulting from the Outer Space Treaty.

### 3

#### Space Commercialization drives Tech Innovation in the Status Quo – it provides a unique impetus.

Hampson 17 Joshua Hampson 1-25-2017 “The Future of Space Commercialization” <https://republicans-science.house.gov/sites/republicans.science.house.gov/files/documents/TheFutureofSpaceCommercializationFinal.pdf> (Security Studies Fellow at the Niskanen Center)//Elmer

The size of the space economy is far larger than many may think. In 2015 alone, the global market amounted to $323 billion. Commercial infrastructure and systems accounted for 76 percent of that 9 total, with satellite television the largest subsection at $95 billion. The global space launch market’s 10 11 share of that total came in at $6 billion dollars. It can be hard to disaggregate how space benefits 12 particular national economies, but in 2009 (the last available report), the Federal Aviation Administration (FAA) estimated that commercial space transportation and enabled industries generated $208.3 billion in economic activity in the United States alone. Space is not just about 13 satellite television and global transportation; while not commercial, GPS satellites also underpin personal navigation, such as smartphone GPS use, and timing data used for Internet coordination.14 Without that data, there could be problems for a range of Internet and cloud-based services.15 There is also room for growth. The FAA has noted that while the commercial launch sector has not grown dramatically in the last decade, there are indications that there is latent demand. This 16 demand may catalyze an increase in launches and growth of the wider space economy in the next decade. The Satellite Industry Association’s 2015 report highlighted that their section of the space economy outgrew both the American and global economies. The FAA anticipates that growth to 17 continue, with expectations that small payload launch will be a particular industry driver.18 In the future, emerging space industries may contribute even more the American economy. Space tourism and resource recovery—e.g., mining on planets, moons , and asteroids—in particular may become large parts of that industry. Of course, their viability rests on a range of factors, including costs, future regulation, international problems, and assumptions about technological development. However, there is increasing optimism in these areas of economic production. But the space economy is not just about what happens in orbit, or how that alters life on the ground. The growth of this economy can also contribute to new innovations across all walks of life. Technological Innovation Innovation is generally hard to predict; some new technologies seem to come out of nowhere and others only take off when paired with a new application. It is difficult to predict the future, but it is reasonable to expect that a growing space economy would open opportunities for technological and organizational innovation. In terms of technology, the difficult environment of outer space helps incentivize progress along the margins. Because each object launched into orbit costs a significant amount of money—at the moment between $27,000 and $43,000 per pound, though that will likely drop in the future —each 19 reduction in payload size saves money or means more can be launched. At the same time, the ability to fit more capability into a smaller satellite opens outer space to actors that previously were priced out of the market. This is one of the reasons why small, affordable satellites are increasingly pursued by companies or organizations that cannot afford to launch larger traditional satellites. These small 20 satellites also provide non-traditional launchers, such as engineering students or prototypers, the opportunity to learn about satellite production and test new technologies before working on a full-sized satellite. That expansion of developers, experimenters, and testers cannot but help increase innovation opportunities. Technological developments from outer space have been applied to terrestrial life since the earliest days of space exploration. The National Aeronautics and Space Administration (NASA) maintains a website that lists technologies that have spun off from such research projects. Lightweight 21 nanotubes, useful in protecting astronauts during space exploration, are now being tested for applications in emergency response gear and electrical insulation. The need for certainty about the resiliency of materials used in space led to the development of an analytics tool useful across a range of industries. Temper foam, the material used in memory-foam pillows, was developed for NASA for seat covers. As more companies pursue their own space goals, more innovations will likely come from the commercial sector. Outer space is not just a catalyst for technological development. Satellite constellations and their unique line-of-sight vantage point can provide new perspectives to old industries. Deploying satellites into low-Earth orbit, as Facebook wants to do, can connect large, previously-unreached swathes of 22 humanity to the Internet. Remote sensing technology could change how whole industries operate, such as crop monitoring, herd management, crisis response, and land evaluation, among others. 23 While satellites cannot provide all essential information for some of these industries, they can fill in some useful gaps and work as part of a wider system of tools. Space infrastructure, in helping to change how people connect and perceive Earth, could help spark innovations on the ground as well. These innovations, changes to global networks, and new opportunities could lead to wider economic growth.

#### Strong Innovation solves Extinction.

Matthews 18 Dylan Matthews 10-26-2018 “How to help people millions of years from now” <https://www.vox.com/future-perfect/2018/10/26/18023366/far-future-effective-altruism-existential-risk-doing-good> (Co-founder of Vox, citing Nick Beckstead @ Rutgers University)//Re-cut by Elmer

If you care about improving human lives, you should overwhelmingly care about those quadrillions of lives rather than the comparatively small number of people alive today. The 7.6 billion people now living, after all, amount to less than 0.003 percent of the population that will live in the future. It’s reasonable to suggest that those quadrillions of future people have, accordingly, hundreds of thousands of times more moral weight than those of us living here today do. That’s the basic argument behind Nick Beckstead’s 2013 Rutgers philosophy dissertation, “On the overwhelming importance of shaping the far future.” It’s a glorious mindfuck of a thesis, not least because Beckstead shows very convincingly that this is a conclusion any plausible moral view would reach. It’s not just something that weird utilitarians have to deal with. And Beckstead, to his considerable credit, walks the walk on this. He works at the Open Philanthropy Project on grants relating to the far future and runs a charitable fund for donors who want to prioritize the far future. And arguments from him and others have turned “long-termism” into a very vibrant, important strand of the effective altruism community. But what does prioritizing the far future even mean? The most literal thing it could mean is preventing human extinction, to ensure that the species persists as long as possible. For the long-term-focused effective altruists I know, that typically means identifying concrete threats to humanity’s continued existence — like unfriendly artificial intelligence, or a pandemic, or global warming/out of control geoengineering — and engaging in activities to prevent that specific eventuality. But in a set of slides he made in 2013, Beckstead makes a compelling case that while that’s certainly part of what caring about the far future entails, approaches that address specific threats to humanity (which he calls “targeted” approaches to the far future) have to complement “broad” approaches, where instead of trying to predict what’s going to kill us all, you just generally try to keep civilization running as best it can, so that it is, as a whole, well-equipped to deal with potential extinction events in the future, not just in 2030 or 2040 but in 3500 or 95000 or even 37 million. In other words, caring about the far future doesn’t mean just paying attention to low-probability risks of total annihilation; it also means acting on pressing needs now. For example: We’re going to be better prepared to prevent extinction from AI or a supervirus or global warming if society as a whole makes a lot of scientific progress. And a significant bottleneck there is that the vast majority of humanity doesn’t get high-enough-quality education to engage in scientific research, if they want to, which reduces the **odds that we have enough trained scientists to come up with the breakthroughs** we need as a civilization to survive and thrive. So maybe one of the best things we can do for the far future is to improve school systems — here and now — to harness the group economist Raj Chetty calls “lost Einsteins” (potential innovators who are thwarted by poverty and inequality in rich countries) and, more importantly, the hundreds of millions of kids in developing countries dealing with even worse education systems than those in depressed communities in the rich world. What if living ethically for the far future means living ethically now? Beckstead mentions some other broad, or very broad, ideas (these are all his descriptions): Help make computers faster so that people everywhere can work more efficiently Change intellectual property law so that technological innovation can happen more quickly Advocate for open borders so that people from poorly governed countries can move to better-governed countries and be more productive Meta-research: improve incentives and norms in academic work to better advance human knowledge Improve education Advocate for political party X to make future people have values more like political party X ”If you look at these areas (economic growth and technological progress, access to information, individual capability, social coordination, motives) a lot of everyday good works contribute,” Beckstead writes. “An implication of this is that a lot of everyday good works are good from a broad perspective, even though hardly anyone thinks explicitly in terms of far future standards.” Look at those examples again: It’s just a list of what normal altruistically motivated people, not effective altruism folks, generally do. Charities in the US love talking about the lost opportunities for innovation that poverty creates. Lots of smart people who want to make a difference become scientists, or try to work as teachers or on improving education policy, and lord knows there are plenty of people who become political party operatives out of a conviction that the moral consequences of the party’s platform are good. All of which is to say: Maybe effective altruists aren’t that special, or at least maybe we don’t have access to that many specific and weird conclusions about how best to help the world. If the far future is what matters, and generally trying to make the world work better is among the best ways to help the far future, then effective altruism just becomes plain ol’ do-goodery.

### Case

#### Rocket launches are increasing now and are close to matching other major sources of carbon emissions

**Gammon 21**[Katharine Gammon, 7-19-2021, "How the billionaire space race could be one giant leap for pollution," Katharine Gammon has served in the Peace Corps in Bulgaria, and attended MIT and Princeton University and won the 2020 Society for Environmental Journalists fellowship, 2017 Columbia University Reporting Fellowship on Early Childhood Development, 2014 National Health Journalism Fellowship, 2013 MIT Knight Science Bootcamp, the 2012 Woods Hole Ocean Science Journalism Fellowship, a 2013 National Press Foundation Fellowship, a 2011 Fellowship from the National Institute on Drug Abuse, and others.<https://www.theguardian.com/science/2021/jul/19/billionaires-space-tourism-environment-emissions>]//DebateDrills ww

When rockets launch into space, they require a huge amount of propellants to make it out of the Earth’s atmosphere. For SpaceX’s Falcon 9 rocket, it is kerosene, and for Nasa it is liquid hydrogen in their new Space Launch System. Those fuels emit a variety of substances into the atmosphere, including carbon dioxide, water, chlorine and other chemicals. The carbon emissions from rockets are small compared with the aircraft industry, she says. But **they are increasing at nearly 5.6% a year**, and Marais has been running a simulation for a decade, to figure out at what point will they compete with traditional sources we are familiar with. The rocket motor on Richard Branson’s Unity 22 burns as it heads toward space. The rocket motor on Richard Branson’s Unity 22 burns as it heads toward space. “For one long-haul plane flight it’s one to three tons of carbon dioxide [per passenger],” says Marais. **For one rocket launch 200-300 tonnes of carbon dioxide are split between 4 or so passengers**, according to Marais. “So **it doesn’t need to grow that much more to compete with other sources**.” Advertisement Right now, the number of rocket flights is very small: in the whole of 2020, for instance, there were 114 attempted orbital launches in the world, according to Nasa. That compares with the airline industry’s more than 100,000 flights each day on average. But emissions from rockets are emitted right into the upper atmosphere, which means they stay there for a long time: two to three years. Even water injected into the upper atmosphere – where it can form clouds – can have warming impacts, says Marais. “Even something as seemingly innocuous as water can have an impact.” Closer to the ground, all fuels emit huge amounts of heat, which can add ozone to the troposphere, where it acts like a greenhouse gas and retains heat. In addition to carbon dioxide, fuels like kerosene and methane also produce soot. And in the upper atmosphere, the ozone layer can be destroyed by the combination of elements from burning fuels. “While there are a number of environmental impacts resulting from the launch of space vehicles, the depletion of stratospheric ozone is the most studied and most immediately concerning,” wrote Jessica Dallas, a senior policy adviser at the New Zealand Space Agency, in an analysis of research on space launch emissions published last year.

#### Privatization is key to sustainable rocket launches – reliance on public entities is bad because they are too limited, expensive, and undo critical strides being made right now

**Kapoor & Todi 21**[ Khushi Kapoor and Keshav Todi On March 20, 2021, 3-20-2021, "The Privatisation of Space Exploration – Finance and Investment Cell, SRCC," Finance and Investment Cell Shri Ram College of Commerce is a student-driven initiative to facilitate knowledge sharing on matters of finance, geopolitics and economy, at Shri Ram College of Commerce and at the university level. The cell aims to provide a stimulus to develop financial instincts among young minds through regular workshops, events and continued collaboration with the industry, to bridge the gap between pedagogy and practice. A small step, that will hopefully yield some great dividends. [https://ficsrcc.com/the-privatisation-of-space-exploration/]//DebateDrills](https://ficsrcc.com/the-privatisation-of-space-exploration/%5D//DebateDrills) ww

**Privatisation** of space exploration has had many benefits for the space industry in the 21st century. Private companies have a greater degree of autonomy in making decisions, which **enables** them to take up **new projects** while taxpayer-funded institutions are accountable to **the Government** and hence, have to often **limit themselves**. Moreover, there is quick decision making in **private companies** while the same process in a public enterprise would have to pass through a number of stages. This advantage has allowed companies like SpaceX, Blue Origin, etc. to cut their costs substantially and perform operations like **launch**ing a rocket to ISS **at** merely **$57 million per seat** as compared to **$80 million per seat** if aboard a Russian shuttle**, and $450 million** each mission before NASA ended its space shuttle program. Moreover, **making reusable landing rocket launchers, improvements in assembly lines and other** such **operations** further ensure lower costs. Due to the well- known success of the top few **p**rivate **s**pace **c**ompanies, many new small companies such as Firefly systems and Vector launch have been able to raise substantial private capital as well. The growth in the space industry also provides employment to millions all over the world, and the rise in the number of private space companies promotes competition amongst them and encourages constant improvements and advancements. Lastly, the publicity of their operations, like live streaming launches, has sparked widespread interest in space exploration among the general public.

#### Space mining produces less carbon emissions than mining on Earth.

**MIT Tech Review 18** [ “Asteroid mining might actually be better for the environment”, MIT Technology Review. 19 October 2018. https://www.technologyreview.com/2018/10/19/139664/asteroid-mining-might-actually-be-better-for-the-environment/] //DebateDrills LC

Hein and co use these numbers to calculate that **a kilogram of platinum mined from an asteroid would release some 150 kilograms of CO2** into Earth’s atmosphere. However, **economies** of scale from large asteroid-mining operations **could lower this to about 60 kilograms of CO2 per kilogram of platinum.**

**That needs to be compared with the emission from Earth-based minin**g. Here, **platinum mining generates significant greenhouse gases,** mostly from the energy it takes to remove this stuff from the ground.

Indeed, the numbers are huge. The mining industry estimates that **producing one kilogram of platinum on Earth releases around 40,000 kilograms of carbon dioxide**. “The global warming effect of Earth-based mining is several orders of magnitude larger,” say Hein and co.

The figures for water are also encouraging. In this case, **the authors calculate the greenhouse-gas emissions from an asteroid-mining operation that returns water to anywhere within the moon’s orbit**, a so-called cis-lunar orbit.  They compare this to the emissions from sending the same volume of water from Earth into orbit.

The big difference is that a water-carrying vehicle from Earth can haul only a small percentage of its mass as water. But **an asteroid-mining spacecraft can transport a significant multiple of its mass as water to cis-lunar orbit**. “Substantial savings in greenhouse gas emissions can be achieved,” say Hein and co.

**This interesting work should** help to **focus minds on the environmental impacts of mining**, which are rapidly increasing in profile**. But it is only a first step**. There is significant uncertainty in the numbers here, so these will need to be better understood.