

I negate the resolution, resolved: the appropriation of outer space by private entities is unjust. My value is justice and we concede util.

## 1- Disclosure Shell

**Interpretation: Debaters must disclose all constructive positions on open source on the 2021-2022 NDCA LD wiki after the round in which they read them. They should disclose under their school name (ex Mission San Jose AD)**

**Violation: they didn't disclose.**

### Peninsula

Last modified by [Angelina Jo](#) on 2022/02/19 19:23

Debater	Aff Page	Neg Page	D
Peninsula - Rhys Moon	Moon Aff	Moon Neg	✗
Peninsula - Chris Sims	Sims Aff	Sims Neg	✗
Peninsula - Blake Dee	Dee Aff	Dee Neg	✗
Peninsula - Saul Munn	Munn Aff	Munn Neg	✗
Peninsula - Alex Borgas	Borgas Aff	Borgas Neg	✗
Peninsula - Novice Packet	Packet Aff	Packet Neg	✗
Peninsula - Eric Lu	Lu Aff	Lu Neg	✗
Peninsula - Kris Deng	Deng Aff	Deng Neg	✗
Peninsula - Andrew Luu	Luu Aff	Luu Neg	✗
Peninsula - William Wei	Wei Aff	Wei Neg	✗
Peninsula - Aaron Yi	Yi Aff	Yi Neg	✗
Peninsula - Jason Xue	Xue Aff	Xue Neg	✗
Peninsula - Kensho Nishio	Nishio Aff	Nishio Neg	✗
Peninsula - Aaron De Ruyter	De Ruyter Aff	De Ruyter Neg	✗
Peninsula - Angelina Jo	Jo Aff	Jo Neg	✗

~1~ 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 who can't bypass paywalled articles.

~2~ **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

3~ **Clash**--can't engage with your aff or decide it's truth value if we didn't have time to research it, read your evidence etc. Anything else destroys academic integrity by letting you cheat with miscut cards and outweighs because it's out of your jurisdiction to break the rules, proven by speech times, etc. Also incentivizes bad affs not centered around the core of the literature but rather surprise affs that race to the margins and make engagement impossible

4~ Accessibility--hurts small school or disabled folks who may need time to process your aff or not have enough prep to come up with a 7 minute NC on the spot

5~. Reciprocity--I disclosed my past 2ns, you should disclose your aff

~1~ DTD on 1ac theory and disclosure – a) disclosure cannot be drop the argument because it would just drop you because you're the norm b) deterrence

~3~ No RVI. they chill other debaters esp novices from reading theory. They could've not disclosed on purpose and prepped out an answer to a disclosure shell. RVIs destroy substantive debate. My opponent shouldn't win for being fair.

~4~ Competing Interps – 1~ reasonability is arbitrary – impossible to know what is reasonable until you establish a brightline 2~ norms – you can sidestep norms by selectively choosing a different brightline you meet every round. 3~ even if reasonability you skewed the whole round by not disclosing

~5~ Disclosure outweighs – it's key to assessing the honesty of the form of your argumentation and how you presented arguments which means it precludes 1ar claims.

~6~ Fairness is a voter because debate is a game governed by rules and you can't tell who actually won if the layer was skewed.

## 2- Mining Rare Earth Minerals

### **Asteroid Mining has attracted the private sector, stony iron asteroids have Rare Earth Minerals. Ellery et al. 18.**

Alex Ellery et al. [Carleton University · Department of Mechanical and Aerospace Engineering BSc (Hons), MSc, PhD]. "Towards In-Situ Manufacture of Magnetic Devices from Rare Earth Materials Mined from Asteroids" Conference Paper. June 2018.

<[https://robotics.estec.esa.int/i-SAIRAS/isairas2018/Papers/Session%2010c/1\\_iSAIRAS\\_Ellery\\_2018\\_final-11-40-Ellery-Alex.pdf](https://robotics.estec.esa.int/i-SAIRAS/isairas2018/Papers/Session%2010c/1_iSAIRAS_Ellery_2018_final-11-40-Ellery-Alex.pdf)> [AD]

**Asteroid mining** is of **great interest for industrial development** of the space environment, and indeed, **has attracted private sector investment** such as **Deep Space Industries and Planetary Resources**. Encouragingly, the **US Space Resources Exploration & Utilisation Act (2015) recognises property claims for material extracted from asteroids**. However, the current obsession with water resources is neglecting other valuable asteroid materials – the golden apples - which have direct applications in bootstrapping an asteroid-based infrastructure. Human involvement will require an inordinate mass of infrastructure including that required for life support. Hence, any prospective asteroid exploitation missions will be entirely robotic. Whereas the Moon requires a  $\Delta v$  of 6.3 km/s to land on its surface from LEO, a  $\Delta v$  of 4-6 km/s (nominally 5.5 km/s) is required to reach a near-earth object (NEO); furthermore, for a sample return trip to Earth, lofting to an Earth return trajectory requires a  $\Delta v$  of 3 km/s from the Moon but a  $\Delta v$  of only 1-2 km/s from an NEO [1]. Much **interest in asteroid mining has been directed towards the mining of platinum group metals** (PG).

The two **most promising asteroid types** for PGM recovery **are LL ordinary chondrites** comprised of 1- 5% Fe-Ni metal including 50-220 ppm PGM **and Mtype asteroids comprised almost entirely of Fe-Ni metal** with 100-300 ppm PGM [2,3]. Despite Pt being a widely used catalyst and desirable for its preciousness, we suggest rare earth metals might be more appropriate target for asteroid mining. Both PGM and rare earth metals plus cobalt, magnesium, niobium, tantalum and tungsten are considered to be critical materials for terrestrial applications. Rare earth metals in particular are of great functional utility, the demand for which on Earth exceeds supply, a situation that is projected to worsen over time. Rare earth elements comprise 15 lanthanides (cerium, dysprosium, erbium, europium, gadolinium, holmium, lanthanum, lutetium, neodymium, praseodymium, promethium, samarium, terbium, thulium and ytterbium) and scandium and yttrium. The most useful rare earth metals include cerium, promethium, scandium, neodymium, dysprosium and praseodymium. In meteoritic material, certain elements are preferentially concentrated [4]: Co, W, Sn and PGM are concentrated in meteoritic nickeliron; lanthanides (rare earth metals), U and Th are concentrated in phosphates and diopside ( $MgCaSi_2O_6$  pyroxene); and Cs is concentrated in plagioclase. However, it is important to note that rare earth elements in meteorites are very low in abundance <0.6% (Table 1). Nevertheless, it appears that **stony-iron asteroids** are **the most appropriate sources of rare earths**.

## Need more rare earth minerals to combat climate change & global warming. Calma 21.

Justine Calma [science reporter at The Verge covering the environment and climate change]. “New climate goals are going to need a lot more minerals” The Verge. 5 May 2021. <<https://www.theverge.com/2021/5/5/22421081/critical-minerals-climate-change-goals-clean-energy>> [AD]

Wind and solar power generation are also mineral-hungry industries. **Wind turbines need rare earth minerals** for magnets, while solar panels are made with copper, silicon, and silver. An increase in renewable energy is also spurring the need to modernize electrical grids, which can't be done without more copper and aluminum. **Existing supply chains for these minerals are already vulnerable**, the IEA notes. Mining for certain minerals tends to be concentrated in a few places — sometimes in just one country. About seventy percent of the world's cobalt came from the Democratic Republic of Congo in 2019, while some 60 percent of rare earth minerals were mined in China. Relying on a single source for these minerals means that the **whole world could be affected by otherwise localized disasters like flooding, drought, or conflict**. It can also **breed human rights, labor, and environmental abuses**. Major tech companies and Tesla have already faced a lawsuit over children killed while mining cobalt in the DRC. Leaders will need to grapple with these problems as they work to transition their economies to clean energy. Designing technologies that minimize the use of these minerals could help alleviate some of the pressure on supply chains, according to the IEA. So could more recycling of EV batteries, solar panels, and wind turbines. Even with that kind of progress, the **IEA expects a shortfall unless new mineral deposits are tapped**. Production of new critical minerals isn't ramping up fast enough because investors aren't convinced that world leaders are fully committed to their climate goals, according to Birol. “If they get from the governments unmistakable signals that clean energy technologies are the technologies of tomorrow, then I believe this investment will flow,” he says. Until then, **limited supplies of critical minerals will loom large over any global action on climate change**.

## Global Warming causes extinction. Klein 14.

Naomi Klein [award-winning journalist, syndicated columnist, former Miliband Fellow at the London School of Economics, member of the board of directors of 350.org]. *This Changes Everything: Capitalism vs. the Climate*, pp. 12-14. September 14.

In a 2012 report, the World Bank laid out the gamble implied by that target. **“As global warming approaches and exceeds 2-degrees Celsius, there is a risk of triggering nonlinear tipping elements. Examples include** the disintegration of the West Antarctic ice sheet leading to more rapid sea-level rise, or **large-scale Amazon dieback drastically affecting ecosystems, rivers, agriculture, energy production, and livelihoods**. This would further add to 21<sup>st</sup>-century global warming and impact entire continents.” In other words, once we allow temperatures to climb past a certain point, where the mercury stops is not in our control.¶ But the bigger problem—and the reason Copenhagen caused such great despair—is that because governments did not agree to binding targets, they are free to pretty much ignore their commitments. Which is precisely what is happening. Indeed, emissions are rising so rapidly that unless something radical changes within our economic structure, 2 degrees now looks like a utopian dream. And it's not just environmentalists who are raising the alarm. The World Bank also warned when it released its report that **“we're on track to a 4-C warmer world** [by century's end] **marked by extreme heat waves, declining global food stocks, loss of ecosystems and biodiversity, and life-threatening sea level rise**.” And the report cautioned that, **“there is also no certainty that adaptation to a 4-C world is possible**.” Kevin Anderson, former director (now deputy director) of the Tyndall Centre for Climate Change, which has quickly established itself as one of the U.K.'s premier climate research institutions, is even blunter; he says **4 degrees Celsius warming—7.2 degrees Fahrenheit—is “incompatible with an organized, equitable, and civilized global community**.”¶ We don't know exactly what a 4 degree Celsius world would look like, but even the best-case scenario is likely to be calamitous. **Four degrees of warming could raise global sea levels by 1 or possibly even 2 meters by 2100** (and would lock in at least a few additional meters over future centuries). This would drown some island nations such as the Maldives and Tuvalu, and inundate many coastal areas from Ecuador and Brazil to the Netherlands to much of California and the northeastern United States as well as huge swaths of South and Southeast Asia. Major cities likely in jeopardy include Boston, New York, greater Los Angeles, Vancouver, London, Mumbai, Hong Kong, and Shanghai.¶ Meanwhile, **brutal heat waves that can kill tens of thousands of people**, even in wealthy countries, **would become entirely unremarkable summer events on every continent but Antarctica**. **The heat would also cause staple crops to suffer dramatic yield losses across the globe** (it is possible that Indian wheat and U.S. could plummet by as much as 60 percent), this at a time **when demand will be surging due to population growth and a growing demand for meat**. And since crops will be facing not just heat stress but also extreme events such as wide-ranging droughts, flooding, or pest outbreaks, the **losses could easily turn out to be more severe than the models have predicted**. **When you add ruinous hurricanes, raging wildfires, fisheries collapses, widespread disruptions to water supplies, extinctions, and globe-trotting diseases**

**to the mix, it indeed becomes difficult to imagine that a peaceful, ordered society could be sustained**

(that is, where such a thing exists in the first place).¶ And keep in mind that these are the optimistic scenarios in which warming is more or less stabilized at 4 degrees Celsius and does not trigger tipping points beyond which runaway warming would occur. Based on the latest modeling, it is becoming safer to assume that **4 degrees could bring about a number of extremely dangerous feedback**

**loops**—an Arctic that is regularly ice-free in September, for instance, or, according to one recent study, **global vegetation that is too**

**saturated to act as a reliable “sink”**, leading to more carbon being emitted rather than stored. Once this happens, any hope of predicting impacts pretty much goes out the window. And this process may be starting sooner than anyone predicted. In May 2014, NASA and the University of California, Irvine scientists revealed that glacier melt in a section of West Antarctica roughly the size of France now “appears unstoppable.” This likely spells down for the entire West Antarctic ice sheet, which according to lead study author Eric Rignot “comes with a sea level rise between three and five metres. Such an event will displace millions of people worldwide.” The disintegration, however, could unfold over centuries and there is still time for emission reductions to slow down the process and prevent the worst. ¶ Much more frightening than any

of this is the fact that **plenty of mainstream analysts think that** on our current emissions trajectory, **we are headed for**

**even more than 4 degrees of warming**. In 2011, the usually staid International Energy Agency (IEA) issued a report predicting that **we are actually on track for 6 degrees Celsius**—10.8 degrees Fahrenheit—of warming. And as the IEA’s chief economist put it:

“Everybody, even the school children, knows that **this will have catastrophic implications for all of us.**” (The evidence

indicates that **6 degrees of warming is likely to set in motion several major tipping points**—not only slower ones

such as the aforementioned breakdown of the West Antarctic ice sheet, but possibly more abrupt ones, **like massive releases of**

**methane from Arctic permafrost**.) The accounting giant PricewaterhouseCoopers also published a report warning businesses

that we are headed for “4-C , or even 6-C” of warming.¶ These various projections are the equivalent of every alarm in your house going off

simultaneously. And then every alarm on your street going off as well, one by one by one. They mean, quite simply, that **climate change**

**has become an existential crisis for the human species**. The only historical precedent for a crisis of this depth and scale

was the Cold War fear that we were headed toward nuclear holocaust, which would have made much of the planet uninhabitable. But that was (and remains) a threat; a slim possibility, should geopolitics spiral out of control. The vast majority of nuclear scientists never told us that we were almost certainly going to put our civilization in peril if we kept going about our daily lives as usual, doing exactly what we were already going, which is what climate scientists have been telling us for years. ¶ As the Ohio State University climatologist Lonnie G. Thompson, a

world-renowned specialist on glacier melt, explained in 2010, **“Climatologists, like other scientists, tend to be a stolid group.**

**We are not given to theatrical rantings** about falling skies. Most of us are far more comfortable in our laboratories or gathering data in the field than we are giving interviews to journalists or speaking before Congressional committees. When then are climatologists

speaking out about the dangers of global warming? The answer is that virtually **all of us are now convinced that global**

**warming poses a clear and present danger to civilization.**