# 1NC

### CP: Anti-Cap Mining

#### CP Text –

Private entities will be banned in space, as defined by the affirmative, with the exception of private entities who seek to mine asteroids.

#### Anti Capitalism approach in space justifies space mining as it tames a worse form of capitalist exploitation – mining on Earth

[SAM WOOLFE](https://www.samwoolfe.com/) MARCH 26, 2020 Asteroid Mining and Capitalism in Space Could Asteroid Mining Bring an End to Conflict Minerals? https://www.samwoolfe.com/2020/03/asteroid-mining-space-capitalism.html

From the point of view of Shammas and Holen, as well as other critics of capitalism, it seems unlikely that NewSpace will have the humanising effects that the UNOOSA and space capitalists are trying to convince us it will have. It is not humanity venturing forth into outer space in the era of NewSpace, but rather “a specific set of capitalist entrepreneurs” (Shammas & Holen). In spite of the concerns about the ever-expanding reaches of capitalism into space, the privatisation of asteroid mining may offer a terrestrial benefit; that is, it may help put an end to the human rights abuses involved in mining on Earth. Many asteroids contain coltan, a metallic mineral used for the production of tantalum capacitors, which are found in pretty much every single electronic device – laptops, cameras, video game consoles, smartphones; you name it. Coltan, unfortunately, is a [conflict mineral](https://www.samwoolfe.com/2013/07/conflict-minerals-sad-truth-about.html). It’s a mineral that is mined in areas of armed conflict, most notably in the Democratic Republic of Congo (DRC). Other conflict minerals include cassiterite, wolframite, and gold. The mining of coltan in the Congo has resulted in a number of human rights violations, including child labour, forced labour, sexual violence, physical abuse, human trafficking, slavery, and unsafe working conditions. In the name of putting profits over people’s rights, corporations continue to benefit from the exploitation of people in the DRC, with capitalists amassing large amounts of profit while miners receive measly inadequate wages and work in [slave-like conditions](https://www.vox.com/world/2017/3/7/14828272/apple-congo-cobalt), as there are little to no labour regulations. This is surely one of the ugliest faces of capitalism. If we are able to extract all the coltan we need from asteroids, then this may eradicate any incentive for such horrible human rights abuses in the Congo. Of course, we should not wait and hope for asteroid mining to be the silver bullet that solves the problem of conflict minerals, but if we are to take a cynical and pessimistic stance, then it may be the case that we see the advent of asteroid mining before the end of conflict minerals. Will conflict minerals still exist a decade from now? On the other hand, who’s to say that profiting from asteroid mining won’t also result in more human exploitation? Might we not see space capitalists exploiting space miners, forcing them to overwork and stay away from Earth for longer than can be considered psychologically healthy?

#### Congolese mining conditions are *atrocious*. Mining devastates the whole region and locks in war and *environmental conflict*

**Sovacool 19** (Sovacool, B. K., director of the Danish Center for Energy Technology at the Department of Business Technology and Development and a professor of social sciences at Aarhus University, “The precarious political economy of cobalt: Balancing prosperity, poverty, and brutality in artisanal and industrial mining in the Democratic Republic of the Congo,” 2019, The Extractive Industries and Society. doi:10.1016/j.exis.2019.05.018)

5. Revealing the mounting risks of mining in the DRC The benefits of mining, while real, sit starkly in contrast to six mounting risks: **accidents** and **occupational hazards**, **environmental pollution** and **degraded community health**, **exploitation** of miners and unfair market practices, the **erosion of democracy** via corruption and malfeasance, **displacement of indigenous peoples**, **and** in the extreme **violent conflict**. 5.1. Accidents and occupational hazards The first potent risk refers to fatal accidents and landslides inside mines, especially ASM shafts, as well as occupational exposure to dust and other medical ailments from ASM and LSM operations. Expert Respondent 21 explained that: **ASM mining for cobalt and copper is some of the most dangerous in the world**. It’s not like gems, which are embedded in rock and can be extracted fairly easily without risking mine collapse. It’s not like gold, which is mined in seams no more than a meter or so in depth, meaning you mine around the seam. No, copper and cobalt mining is like removing entire blocks at a time, excavating an entire shaft of a mine so that’s as big as a bus or small assembly hall. Then it falls in on you. Expert Respondent 7 underscored the occupational vulnerability of miners as follows: **Artisanal miners work in terrible conditions**. They are at the bottom end of the mining industry, in every imaginable way. There are no trade unions to defend their rights, no specific cooperatives that try to improve conditions. Too many important political individuals profit from the mining industry being as it is, to make it safer. The labor conditions within ASM are poor, dangerous, hazardous, and horrific. Expert Respondent 14 added that “most ASM operations are poorly managed societies, enterprises with just one boss and a few workers. The boss is the biggest beneficiary, and he treats his workers or cooperatives members quite badly. There is nonexistent health and safety training, and an absolute lack of willingness and knowledge to make things better.” Interviews with the miners themselves brought these concerns to the forefront. Community Respondent 9 stated that “The danger is always the wall. You never know when rocks will fall or the mine will collapse. So far my team has been lucky, but I don’t know how long that luck will last. I have nightmares when I sleep about that wall trapping me, crushing me.” Community Respondent 29 noted that he always “felt sick and scared of accidents. One of my diggers was in a hole, and a stone fell and crushed him. He lost both his legs.” Community Respondent 36 talked about how “I know of many friends involved in accidents. We have avoided them on our team but not because we are better or worse, we are more or less careful, have better or worse equipment. We have just been lucky, that is all, and some day our luck may change.” Community Respondent 37 mentioned that they “breathe dust all the time, and have a cough that won’t go away.” Indeed, Fig. 9 shows portraits of four ASM miners the author interviewed, all with coughs, possible signs of silicosis, and all with red eyes from dust. It is not just miners, either, who face occupational hazards. Community Respondent 46, who worked at a cobalt depot, talked about the hazardous nature of transport. They said “To get here to the depot, if I put a sack of cobalt on my bicycle, it is too heavy to pedal. It must be pushed like a wheelbarrow. When that happens, it can take 8–12 h just to reach the destination, even traveling at night, and you have to dodge the trucks, buses, and traffic.” The author would note that when he picked up a single sack of cobalt, half full, he could barely lift it. (Such sacks are often as heavy as 70 kg). Community Respondent 47 also spoke of transport safety commenting that “many children or young adults do get run over by fast moving buses or trucks on the highway. Others are robbed, or disappear.” Still others discussed the hazards of sorting, processing, and crushing cobalt ore. Community Respondent 43 mentioned that: After ASM miners deliver sacks of cobalt via motorcycle, car, bicycle, and sometimes on foot, we take their name, and ensure they are registered. Second, we check their product, and separate the rocks inside. Green blue is copper, cobalt is dark brown and grey. Third, we threat the product chemically before we pass it to our Chinese boss, who ensures it is taken to Lubumbashi. But this is backbreaking work, and after we are done each day our bodies are tired and hurt everywhere. In this way, other parts of the cobalt supply chain can pose occupational dangers. Some respondents discussed how mining places entire communities at risk. Expert Respondent 4 explained that: Proximity is the problem. People migrate and settle literally on top of the mine. When landslides happen, homes and walls crack and fall apart, people are injured by projectiles. During our visit to Kasulo, multiple respondents discussed how after the community discovered cobalt below homes, they tore them up to get at it, even causing a major landslide that killed dozens. They dug in gardens, inside homes, inside streets, inside backyards. Fig. 10 for example shows a collapsed road from that landslide. Lindberg and Andersson (2019) write about how when they visited Kasulo, they were told the local pastor broke up a large hole in the church floor to mine for cobalt, thinking he would strike it rich. Many of these health and occupational hazards are confirmed in the literature. Amnesty International (2016a) does note that ASM accidents are “common” and that unsupported tunnels collapse “frequently.” Further complicating matters, many accidents go unreported and bodies, and in some cases entire mining teams, are merely buried underground. At least 80 miners died in accidents between September 2014 and December 2015, with many being buried alive after heavy rains (Amnesty International, 2016b). Tsurukawa et al. (2011) calculated that annual death rates for the ASM sector range to between 0.4 to 0.5% of the workforce—or if one goes with the number of 100,000 miners, 400 to 500 deaths per year. They added that the danger of landslides is permanent; that the risk of accidents increases during the rainy season; and that other than being buried alive, many accidents also lead to suffocation or drowning. Hinton et al. (2013) note that other constant dangers to ASM mining include chemical poisoning from mercury and cyanide (especially for gold mining), methane and coal dust explosions, electrocution and death through the inappropriate use of underground explosives and resulting fires and explosions. Hinton et al. (2013) add that even though ASM accidents are systematically underreported, the data that does exist suggests that ASM mining is still six to seven times more likely to have accidents than LSM operations. Elenge et al. (2013) report that in one particular part of Katanga, Lupoto, 392 accidents at ASM occurred in one year, affecting 72.2% of miners. Elenge and De Brouwer (2011) described how diggers face the ever-present risk of mine collapse, suffocation, dehydration, and polluted air; crushers face the chronic risks of ocular traumatism (vision loss and eye damage); loaders face exposure to handling heavy loads. The World Bank (2007) writes that “the welfare and labor conditions of virtually all ASM mines is appalling and miners are generally completely ignorant about basic occupational health and safety, with many injuries and fatal accidents … Most incidents are caused by widespread appalling and unsafe working conditions, and exposure to mercury (orpaillage activity), dust, fumes, rock falls, landslides, underground stope collapses and ground failure. There are also the effects of poor ventilation and lighting, over exertion and inadequate work space.” 5.2. Environmental pollution and degraded health A second immediate and localized impact to both types mining is its negative impact on the natural environment, with deleterious consequences on public health. This came up repeatedly in our interviews as well as the peer reviewed literature. For example, Expert Respondent 1 noted that: **Cobalt mining brings severe environmental impacts**, **pollution** **of the rivers and the soil** and even of the people. You have multiple pollution streams: pollution of the vegetables and farms. Pollution through dust. Pollution through the air. High levels of cobalt are in the urine and blood of mining workers and in entire mining communities. This is alarming for the children, women, and young men. Pollution is quite obvious when you arrive in Lubumbashi, you can taste it in your mouth. Hundreds of trucks drive around or through the city center every day, adding to the dust. Another big unknown is the impact of uranium, which spreads radioactive tailings across multiple sites … Looking at the mining environment feels like being on the moon. Tailings are everywhere, rocky barren landscapes dominate the view, devoid of life. Expert Respondent 6 called mining activities “quite devastating to local ecology.” Community Respondent 28, an industrial miner, framed it by commenting that: **The industrial mining process for copper and cobalt here** essentially **ravages the environment**. **It is almost identical to** the mountain top removal processes for **coal in the United States**, **except without the environmental standards** and we use more acid. We blast apart whole mountains and forests, and generate massive amounts of waste, tailings, and slurry that gets dumped into the wilderness, or as is often the case, next to communities and the miners themselves. Indeed, Fig. 11 shows the presence of acid, dust, and tailings witnessed during the field research. Some, like the Kasulo ASM, are literally in the backyards of homes, next to drying laundry or food storage. Numerous articles have confirmed the depth and extent of environmental pollution with cobalt mining. Banza Lubaba Nkulu et al. (2018) write that mining dust containing cobalt and other metals, including uranium, can be inhaled into the lungs and ingested through contamination of food and other items, especially by children. Lindberg and Andersson (2019) collected measurements of cobalt and metals in soil, and found it exceeded the Swedish safety limit by more than 100 times. Tsurukawa et al. (2011) add that mining also affects water quality and availability, with many minerals washed in local rivers that are also routinely used for cooking, bathing, and drinking. They also noted that radiation dose rates near piles of ore, even at depots, often exceed international standards for radiation workers. **The World Bank** (2008) **called the environmental impacts of mining in the DRC “deplorable**.” In a special report on ASM, the World Bank (2007: 10) suggested that **the environmental impacts** from ASM mining **cut across**: •**Biodiversity loss** and the destruction of natural habitats through mines and disposal sites; • **Air pollution** through emissions and discharges; • Siltation of wetlands and riparian areas from processing slimes; • Changes in river ecology due to pollution, sedimentation, and flow modification; • **Deforestation**; • **Soil erosion**; • **Land instability** **and** **ground subsidence**. Thus, the World Bank (2007: 10) concluded that **ASM** as a whole **was** “**virtually always environmentally destructive** **as the sector operates in a clandestine manner with little regard or respect for the local environment or ecosystems;** **resulting in the direct dumping of waste**, tailings, effluents, river damage in alluvial areas, mercury pollution, land degradation and soil erosion, deforestation, and the loss of biodiversity.” **These activities** not only damage the environment, they **threaten public health**. Sadly, the impacts are not limited to miners or even mining sites. Banza Lubaba Nkulu et al. (2018) collected blood and urine samples from 72 residents of the Kasulo ASM, including 32 children, and noted that “children living in the mining district had ten times as much cobalt in their urine as children living elsewhere.” They found more DNA damage in children in the mining area than in a control group. Kayembe-Kitenge et al. (2017) report a higher risk of congenital birth defects. Amnesty International (2016a) warned how chronic exposure to cobalt dust leads to a potentially fatal lung disease, called “hard metal lung disease.” Inhalation of cobalt particles can also cause “respiratory sensitization, asthma, shortness of breath, and decreased pulmonary function”, and sustained skin contact with cobalt can lead to dermatitis. One woman who said she carried 50 kg sacks of cobalt ore told Amnesty International (2016a) that “We all have problems with our lungs, and pain all over our bodies.” Banza Lubaba Nkulu et al. (2009) used biomonitoring to document that those merely living close to mines in the DRC had elevated levels of copper and uranium in urine as well as “significantly higher” concentrations of cadmium, copper, cobalt, and uranium in the blood. As the study concluded, “The extremely high levels for cobalt and the high levels of other toxic metals in the urine of these subjects from the general population of Katanga confirm that they are significantly exposed to these metals through their environment.” Nemery and Lubaba Nkulu (2018) also confirmed the presence of other trace metals such as uranium, manganese, lead or mercury in urine or blood, depending on the type of jobs. **Squadrone** et al. (2016) **documented that the severe contamination of lakes and rivers** where cobalt is washed, and where slurry and runoff flows, such as Lake Tshangalele, enters community food supplies and staples as people rely on fish to eat, or those sources for drinking water. A final link to health concerns not environmental degradation, but the spread of disease in mining camps. Tsurukawa et al. (2011) write that mining camps—for both ASM and LSM—often lack sanitation and hygiene, and they feature frequent prostitution or promiscuity that further spread sexual infections or HIV/AIDS. The World Bank (2007) confirmed “deteriorating health conditions” in mining camps and noted that they both lack public health facilities and are ideal sites for where malaria and other parasitic and communicable diseases related to poor sanitation, such as cholera, dysentery, diarrhea, and tuberculosis, are spread. 5.3. Exploitation and unfair market practices Miners face not only the risk of accidents or contributing to environmental pollution that poison them. They are also exploited by their bosses, by trading companies, and by other actors involved in the political economy of cobalt. These features are only exacerbated by an extremely volatile price for cobalt, which was trading at $30,000 per ton in early 2019 but had reached an all-time high of $95,250 per ton in March of 2018 and a low of $21,750 in February 2016, as Fig. 12 indicates. Multiple miners discussed being taken advantage of by either the bosses they worked for, the companies they sold cobalt to, or LSM operations that artificially depressed the price of cobalt. Community Respondent 8 said: I am very angry about CDM and other concessions. Since they have come, my livelihood and my family suffer. The price for cobalt is too low, and CDM pays less than market prices, which hurts us even more because we cannot compete with them on an open market. We are displaced and undercut with prices at the same time. Community Respondent 29 confirmed this and noted: When we go and sell cobalt, we run into problems. We do not get a fair or normal market price, always we are undercut by the industrial firms, and the prices are always low below the proper price. We are all parents, we have to support our children, but it is becoming increasingly difficult to do so. Community Respondent 39 talked about “double taxation” and added that “we can never get enough money, the mining police always taking a share of my cut, and then we have to sell below market prices anyways.” Community Respondent 46 spoke again of prices being too low, so low that the traders now exploit the diggers and pay only for the copper, demanding the cobalt is “free” as a tax. Community Respondent 44 explained that currently (as of March 2019), the depots say they “don’t want cobalt, copper is more profitable, I give them cobalt for free.” Indeed, the author saw more than 200 depots during the field research, from literally “Depot AAA” to “Depot Z” as well as many ones in between. Some had the names of bosses, “Depot Jeef” and “Depot Kenedy,” some were intended to be lucky e.g. “Depot 888” and “Depot Number One”, others were just odd, such as “Depot Vice Versa” and our favorite “Depot Boss Billy.” All of these, however, existed to try and collect ASM cobalt and at times take advantage of miners. Banza Lubaba Nkulu et al. (2018) reported that ASM miners sell their raw metals to Chinese, Indian or Lebanese companies for further export to cobalt-refining countries (China, Belgium, Finland and Canada). Our research confirms this point, but also finds that those companies always try to put pressure on the miners for the lowest possible prices. Although not directly identified in the existing literature, studies do discuss how the DRC faces exploitation from foreign firms to attract industry and keep prices low. For example, Marysse and Geenen (2009) reported that between the 1990s and 2000s, the Chinese share in African trade jumped from 0.8% to 9%, more than a tenfold increase. In real terms, this increase was even larger, rising from $1.5 million in 1995 to $368 million in 2005. Copper, cobalt, and gold joint ventures with China are the largest trade investments China signed in all of Africa for that decade. But these agreements were criticized for unequal exchange, with China taking two-thirds of the profits. These agreements also enabled the Chinese to buy at prices below world market levels. They lastly stipulated requirements that the DRC would reimburse firms if they failed to meet expected production levels or profit margins. Mohan and Power (2008) thus caution that mining will not challenge fundamentally Africa’s extroverted relationship with the world economy, which keep it at a perpetual disadvantage and locked into supplying raw materials to global markets, rather than adding value to the local economy. 5.4. Political corruption and corporate malfeasance A fourth concern is more political, and it relates to the impact of mining on the erosion of national democracy as well as corruption within the state, as well as malfeasance among mining companies. Indeed, the author witnessed much of this general corruption firsthand, from the airport customs and immigration authorities (who asked for money) to cashiers at grocery stores (asking for money or not giving change) to the national police, local police, and military (all asking for money). Expert Respondent 1 noted for example that “mining contracts and the mining code by and large have been merely instrumentalized to build wealth for powerful political figures, especially the President.” Community Respondent 1 stated that “mining in the DRC does not benefit local communities, **it is only corrupt politicians who are getting rich**.” Community Respondent 2 framed this actively in terms of democracy, saying that: **The biggest threat to democracy as a whole in the DRC is not war, or poverty, but mining**. Mining prevents the capability of the Congolese people to be governed by those they like. **The mining sector and the state capture of resources undermines development for the whole country**. It allows them to run the show and buy off whatever they need to prevent real democracy, freedom of speech, and free and fair elections. Mining has undermined the whole nation. Expert Respondent 6 elaborated that: The political costs of cobalt mining are grave. Mining royalties create a very narrow political elite, particularly in Kinshasa, which results in counterproductive governance dynamics, where the elite are accountable to mining companies but not to the people. A toxic governance structure has arisen enclaved around mining benefits, and a small clique around the presidency. Cobalt mining has had very high growth rates the past decade, but most people have not shared or benefitted from that, instead, their situation has stagnated, or even gotten worse. Expert Respondent 3 added that even though there were many “honest, bright, non-corrupt people,” still “many mining inspectors are bought off” and “corruption is pervasive and usually backed with money and weapons.” Expert Respondent 8 agreed that “corruption is rife in the DRC, **the government shows little interest in anything other than mining**, **not health care**, **education**, **or** **public investments**.” Some of the literature has confirmed aspects of this corruption. Amnesty International (2016a) documented that “state officials [are] aware of the mining activities taking place in unauthorized locations, but they also financially benefit from them. Officials from a range of different government and security agencies control access to unauthorized mining sites and demand illegal payments from artisanal miners.” Kara (2018) also documented that numerous diggers, especially **children**, **reported that they pay bribes to local government authorities to ensure they could skirt around child labor laws** **and** **human rights protections**. Zeuner (2018) argues that widespread corruption completely prevents the correct or equitable distribution of state revenue from mining. Titeca and Edmond (2019: 542) identified parallel issues in another extractive industry, oil, and noted that “the main function of the oil sector is patronage and regime security” and that perhaps perversely, corruption was “too visible” to be punished. **Calls for political reform seem stymied in the face of this corruption**. The ASM community, for instance, lacks an effective and nationally representative union, and organized social movements in the DRC for mining rights are scarce. Community Respondent 2 noted that the system itself was insulated from reform, with: A lack of cohesion to mobilizing against corruption … I have rarely seen communities push back against mining, even big industrial projects, there is no real opposition. The only opposition you see is those in dire straits, directly displaced or affected, mainly the artisanal miners. But this is ad hoc, and site by site, not necessarily organized or lasting.” Expert Respondent 2 affirmed this and noted that: Protests are always very local and they are quickly shut down. They never spread. They involve rocks and the burning of the occasional truck, but they never result in any true diplomatic impact or pressure, no unionizing of cooperatives, no organization and more effective forms of protest. Whomever would defend these communities is usually bought off by the state or the companies. This inability for labor groups to protect workers has linkages to many of the other dimensions discussed in this section of the study, including occupational accidents and patterns of exploitation. The World Bank (2007) confirmed this point when noting that “no democratic organization into associations or co-operatives is followed to provide a single ‘voice’ that could help the ASM [community] in conducting pricing or workplace negotiations, mobilizing assistance programs, conducting awareness campaigns among its members and organizing security and other mine site related activities.” De Haan and Geenen (2016) even found that mining cooperatives in another region of the DRC, South Kivu, further entrenched the exploitation of local miners after they were coopted by elite interests. Even then, when local political actors may try to promote mining rights, or make public investments, they lack the fiscal skills or knowledge to make sound choices. Expert Respondent 14 commented that: Even when revenues end up in non-corrupt political institutions, they don’t know what to do. Local authorities are provincial and shortsighted. When awarded mining royalties, they never had so much money before, they don’t know how to spend or manage it well. Mining companies can pay the taxes, but then the local authorities spend it on something ridiculous like 20 football fields. They are not trained in responsible fiscal management, or in designing community development funds. Expert Respondent 7 remarked that “sometimes you may have the best of intentions with a new political figure, but without a regime change and total political shift, even they can do little to improve the system.” The implication is that improper training would still result in mismanagement even if officials didn’t have vested interests and/or a desire to be corrupt. A final political risk from mining is corporate malfeasance alongside state corruption. Community Respondent 1 made a distinction between types of mining conglomerates, stating: Generally, European and American mining companies are respectful of the environment and communities. However, generally Asian companies (Chinese, Indian, etc.) or Australian companies are not respectful of the environment and communities. They actively corrupt the agents of the state who have to audit. Community Respondent 2 however challenged this point, noting “they are all bad” and that “Glencore and ERG are some of the least ethical players of all.” Expert Respondent 18 remarked that “Companies like Glencore don’t care about the Congo at all. They only care about their own financial power, and their shareholders.” Expert Respondent 20 agreed and stated that “industrial mining companies are benefitting from the weakness of the state, taking control in a vacuum and operating with accountability to nobody.” There is some evidence to back up these claims, with Katz-Lavigne (2019a) reporting that Glencore was sanctioned and fined (including the banning of executives) by the Ontario Securities Commission in Canada for misreporting the amounts of copper and cobalt extracted; the U.S. Department of Justice was also investigating Glencore for bribery; and Glencore, ERC and Chemaf have bene linked to violations of environmental standards and/or other bribing scandals. 5.5. Displacement of indigenous communities Although less frequently mentioned, **a fifth potent impact was the displacement of indigenous people** **as well as negative effects on community stability**, **including** **food security**. Expert Respondent 4 commented that: Mining activities do displace communities, you have the forcible moving of villages away from concessions, or changes in where the road goes, or the closing off of hunting grounds or agricultural areas. This is especially the case for some indigenous groups or ethnic groups, who see their sacred sites disappearing or cannot get to fields or areas of cultural significance. Community Respondent 1 framed it at the nexus of indigenous peoples, land rights and food security: As a mitigation measure, mining companies decide to move the communities (resettlement) by building new homes better than the first ones, which are destroyed. But really, you have degradation and acquisition of the land, and also pollution of other sources of livelihood from the collection of wood, mushrooms, or charcoal, as well as the loss of some medicinal plants. The acquisition of their land for the construction of the mine's infrastructure, a factory, offices, mining traffic routes, etc., has harmful consequences that can lead to food insecurity and severe disruption to communities. In my view, indigenous communities are hit hard by these practices. Expert Respondent 5 mentioned indirect impacts such as how “an influx of miners, industrial or artisanal, can be a challenge for local communities, especially as they are their families take jobs and economic opportunities locals cannot complete with. Mining has a corrosive effect on indigenous groups and their identity, with communities usually suffering from lack of cohesion and tension.” Such sentiments have been affirmed by some previous research. Tsurukawa et al. (2011) noted that because miners tend to have higher incomes than the rest of the population, their presence in a community results in local inflation and access to essential goods can become difficult for indigenous groups. Over the longer term, interactions with mining communities can lead to other negative social impacts within indigenous communities, including prostitution, polygamy, drug abuse, and alcoholism. Tsurukawa et al. (2011) also reported “claims of severe human rights violations towards Pygmy communities in the mining sector of Katanga.” The World Bank (2007) cautioned that ASM activities can be corrosive on indigenous communities as well, with pupils leaving school to work on nearby ASM sites, and with many indigenous peoples deciding to abandon traditional livelihoods in favor of the “getrich-quick” mentality of mining. The World Bank (2007) also confirmed the effect of mining on local inflation, and linkages to the abandonment of farming and other traditional practices. **New resource discoveries**, when they occur, can **contribute to community tension and conflict**. The World Bank (2007) reported that **whenever a new resource site is discovered**, **massive numbers of Congolese migrants “rush” into the area to try and extract the minerals**, usually **conflicting with local communities**. Then, once a new mining site is established, the World Bank (2007) noted a “boomerang effect” where the **localized inflation brought about by mining then makes it harder for local communities to meet basic needs.** **This has led in some communities to higher costs for basic commodities** **and food**, increasing rates of malnutrition, and “new social problems resulting in xenophobia, community tension and antagonism.” 5.6. Violence, riots and murder A final serious risk is violent conflict and death. Expert Respondent 1 described: A constant state of conflict between ASM and LSM interests, with LSM companies forcibly evicting ASM miners from sites which can lead to protest and violent reaction against the mining companies, and against the state over processes of eviction. The **mining security forces escalate** the **conflict** by arresting or beating protesters; the protestors respond by burning company trucks, throwing rocks, even burning or looting community development centers. Expert Respondent 2 noted that “**many ASM workers are** shot and **killed**.” Expert Respondent 6 agreed and commented that: **Cobalt mining perpetuates cycles of conflict and violence and political patronage to the very system that is leading to** **protesting**, **rebellion**, **and** **unrest**. There are even dozens of killings created by the military and police, who do repel armed attacks on mines. **There is no such thing as clean or conflict free minerals** when it comes to the DRC.

#### Asteroid mining solves climate change, resource shortages, and environmental degradation – independently its key to space colonization that solves every existential crisis

Tina Hlimi, Canadian lawyer with a Bachelors and Masters Degrees in Environmental Sciences from McGill University, 2014, “THE NEXT FRONTIER: AN OVERVIEW OF THE LEGAL AND ENVIRONMENTAL IMPLICATIONS OF NEAR-EARTH ASTEROID MINING,” ANNALS OF AIR AND SPACE LAW, https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2546924]/¶

THE ENVIRONMENTAL BENEFITS OF NEAR EARTH ASTEROID HARVESTING Let us recapitulate what we have already found. Shortage of resources is not a fact; it is an illusion born of ignorance. Scientifically and technically feasible improvements in launch vehicles will make departure from Earth easy and inexpensive. Once we have a foothold in space, the mass of the asteroid belt will be at our disposal, permitting us to provide for the material needs of a million times as many people as Earth can hold. Solar power can provide all the energy needs of this vast civilisation (10,000,000 billion people) from now until the Sun expires. Using less than one percent of the helium-3 energy resources of Uranus and Neptune for fusion propulsion, we could send a billion interstellar arks, each containing a billion people, to the stars. There are about a billion Sun-like stars in our galaxy. We have the resources to colonise the entire Milky Way. 122 In addition to demystifying the legal doctrine governing outer space natural resource appropriation it is also necessary to weigh the benefits and detriments of space-faring activities. Foremost, States around the world are developing at unprecedented rates and the human population is mounting in conjunction with demand for natural resources to sustain the current and newly established western standard of living. One of the fastest growing nations, China, is experiencing unhindered growth facilitated by fossil fuel use from coal and extensive mining. This has caused substantial water, soil and air degradation. In the face of these troubles, NEA mining could be the key to preserving the Earth's bounty and replenishing contaminated water supplies. The influx of natural resources could thwart the burning of dirty coal and fossil fuels, thereby mitigating the effects of climate change, such as, rising sea level, atmospheric pollution, melting of sea ice and rising temperatures. NEA harvesting could also protect the ocean and the fragile and largely unexplored deep seabeds 123 from oil and gas drilling. It could furthermore protect ecosystems from rare-earth mineral mining predominantly used to fuel the electronics sector. 124 NEA mining is especially pertinent as China restricted its global exports of rare-earth minerals in 2009, incongruously citing the need to protect the environment. Unfortunately, the supply cuts have forced dependent States like Japan, the United States and South Korea to heighten rare-Earth mineral exploration. This accordingly led to Japan's 2011 discovery of rare-earth minerals in the ocean-bed deposits of the Pacific Exclusive Economic Zone (PEEZ) thereby necessitating risky, deep-sea mining techniques, which may result in marine pollution if not carefully designed and developed. Other States, which have joined the environmentally destructive rare-earth mineral exploration movement include India, Canada, Tanzania, Australia, Brazil and Vietnam., There is accordingly much competition and exploration for rare-earth minerals which could result in significant exploitation of untouched areas like the PEEZ seabed and Mongolia.125 Other regions which may soon be targeted for mineral and hydrological resources include Antarctica and the Arctic. With the advent of technological advances, environmentally destructive practices such as refining may soon occur in outer space, sparing the Earth of pollution. 126 Accordingly, NEA mining is a viable technology for preserving the Earth's environment by curbing atmospheric and marine pollution, enhancing water supply and quality and mitigating the effects of climate change; all while allowing humankind to maintain and even improve their standard of living through increased technologies, consumption and population growth. B. THE ENVIRONMENTAL CONSEQUENCES OF NEAR EARTH ASTEROID MINING

#### Cap is inevitable – 3 warrants

#### The alt/ROB cannot overcome capitalism’s entrenched nature

Hubert Buch-Hansen 18, Department of Business and Politics, Copenhagen Business School. “The Prerequisites for a Degrowth Paradigm Shift: Insights from Critical Political Economy,” Ecological Economics Volume 146, April 2018, Pages 157-163. Thanks dml!

Political projects do not become hegemonic just because they embody good ideas. For a project to become hegemonic, (organic) intellectuals first need to develop the project and a constellation of social forces with sufficient power and resources to implement it then needs to find it appealing and struggle for it. In this context, it is worth noting that degrowth, as a social movement, has been gaining momentum for some time, not least in Southern Europe. Countless grassroots' initiatives (e.g., D'Alisa et al., 2013) are the most visible manifestations that degrowth is on the rise. Intellectuals – including founders of ecological economics such as Nicholas Georgescu-Roegen and Herman Daly, and more recently degrowth scholars such as Serge Latouche and Giorgos Kallis – have played a major role in developing and disseminating the ideas underpinning the project. A growing interest in degrowth in academia, as well as well-attended biennial international degrowth conferences, also indicate that an increasing number of people embrace such ideas. Still, the degrowth project is nowhere near enjoying the degree and type of support it needs if its policies are to be implemented through democratic processes. The number of political parties, labour unions, business associations and international organisations that have so far embraced degrowth is modest to say the least. Economic and political elites, including social democratic parties and most of the trade union movement, are united in the belief that economic growth is necessary and desirable. This consensus finds support in the prevailing type of economic theory and underpins the main contenders in the neoliberal project, such as centre-left and nationalist projects. In spite of the world's multidimensional crisis, a pro-growth discourse in other words continues to be hegemonic: it is widely considered a matter of common sense that continued economic growth is required. It is also noteworthy that economic and political elites, to a large extent, continue to support the neoliberal project, even in the face of its evident shortcomings. Indeed, the 2008 financial crisis did not result in the weakening of transnational financial capital that could have paved the way for a paradigm shift. Instead of coming to an end, neoliberal capitalism has arguably entered a more authoritarian phase (Bruff, 2014). The main reason the power of the pre-crisis coalition remains intact is that governments stepped in and saved the dominant fraction by means of massive bailouts. It is a foregone conclusion that this fraction and the wider coalition behind the neoliberal paradigm (transnational industrial capital, the middle classes and segments of organized labour) will consider the degrowth paradigm unattractive and that such social forces will vehemently oppose the implementation of degrowth policies (see also Rees, 2014: 97). While degrowth advocates envision a future in which market forces play a less prominent role than they do today, degrowth is not an anti-market project. As such, it can attract support from certain types of market actors. In particular, it is worth noting that social enterprises, such as cooperatives (Restakis, 2010), play a major role in the degrowth vision. Such enterprises are defined by being ‘organisations involved at least to some extent in the market, with a clear social, cultural and/or environmental purpose, rooted in and serving primarily the local community and ideally having a local and/or democratic ownership structure’ (Johanisova et al., 2013: 11). Social enterprises currently exist at the margins of a system, in which the dominant type of business entity is profit-oriented, shareholder-owned corporations. The further dissemination of social enterprises, which is crucial to the transitions to degrowth societies, is – in many cases – blocked or delayed as a result of the centrifugal forces of global competition (Wigger and Buch-Hansen, 2013). Overall, social enterprises thus (still) constitute a social force with modest power. Ougaard (2016: 467) notes that one of the major dividing lines in the contemporary transnational capitalist class is between capitalists who have a material interest in the carbon-based economy and capitalists who have a material interest in decarbonisation. The latter group, for instance, includes manufacturers of equipment for the production of renewable energy (ibid.: 467). As mentioned above, degrowth advocates have singled out renewable energy as one of the sectors that needs to grow in the future. As such, it seems likely that the owners of national and transnational companies operating in this sector would be more positively inclined towards the degrowth project than would capitalists with a stake in the carbon-based economy. Still, the prospect of the “green sector” emerging as a driving force behind degrowth currently appears meagre. Being under the control of transnational capital (Harris, 2010), such companies generally embrace the “green growth” discourse, which ‘is deeply embedded in neoliberal capitalism’ and indeed serves to adjust this form of capitalism ‘to crises arising from contradictions within itself’ (Wanner, 2015: 23). In addition to support from the social forces engendered by the production process, a political project ‘also needs the political ability to mobilize majorities in parliamentary democracies, and a sufficient measure of at least passive consent’ (van Apeldoorn and Overbeek, 2012: 5–6) if it is to become hegemonic. As mentioned, degrowth enjoys little support in parliaments, and certainly the pro-growth discourse is hegemonic among parties in government.5 With capital accumulation being the most important driving force in capitalist societies, political decision-makers are generally eager to create conditions conducive to production and the accumulation of capital (Lindblom, 1977: 172). Capitalist states and international organisations are thus “programmed” to facilitate capital accumulation, and do as such constitute a strategically selective terrain that works to the disadvantage of the degrowth project. The main advocates of the degrowth project are grassroots, small fractions of left-wing parties and labour unions as well as academics and other citizens who are concerned about social injustice and the environmentally unsustainable nature of societies in the rich parts of the world. The project is thus ideationally driven in the sense that support for it is not so much rooted in the material circumstances or short-term self-interests of specific groups or classes as it is rooted in the conviction that degrowth is necessary if current and future generations across the globe are to be able to lead a good life. While there is no shortage of enthusiasts and creative ideas in the degrowth movement, it has only modest resources compared to other political projects. To put it bluntly, the advocates of degrowth do not possess instruments that enable them to force political decision-makers to listen to – let alone comply with – their views. As such, they are in a weaker position than the labour union movement was in its heyday, and they are in a far weaker position than the owners and managers of large corporations are today (on the structural power of transnational corporations, see Gill and Law, 1989). 6. Consent It is also safe to say that degrowth enjoys no “passive consent” from the majority of the population. For the time being, degrowth remains unknown to most people. Yet, if it were to become generally known, most people would probably not find the vision of a smaller economic system appealing. This is not just a matter of degrowth being ‘a missile word that backfires’ because it triggers negative feelings in people when they first hear it (Drews and Antal, 2016). It is also a matter of the actual content of the degrowth project. Two issues in particular should be mentioned in this context. First, for many, the anti-capitalist sentiments embodied in the degrowth project will inevitably be a difficult pill to swallow. Today, the vast majority of people find it almost impossible to conceive of a world without capitalism. There is a ‘widespread sense that not only is capitalism the only viable political and economic system, but also that it is now impossible to even imagine a coherent alternative to it’ (Fisher, 2009: 2). As Jameson (2003) famously observed, it is, in a sense, easier to imagine the end of the world than it is to imagine the end of capitalism. However, not only is degrowth – like other anti-capitalist projects – up against the challenge that most people consider capitalism the only system that can function; it is also up against the additional challenge that it speaks against economic growth in a world where the desirability of growth is considered common sense. Second, degrowth is incompatible with the lifestyles to which many of us who live in rich countries have become accustomed. Economic growth in the Western world is, to no small extent, premised on the existence of consumer societies and an associated consumer culture most of us find it difficult to completely escape. In this culture, social status, happiness, well-being and identity are linked to consumption (Jackson, 2009). Indeed, it is widely considered a natural right to lead an environmentally unsustainable lifestyle – a lifestyle that includes car ownership, air travel, spacious accommodations, fashionable clothing, an omnivorous diet and all sorts of electronic gadgets. This Western norm of consumption has increasingly been exported to other parts of the world, the result being that never before have so many people taken part in consumption patterns that used to be reserved for elites (Koch, 2012). If degrowth were to be institutionalised, many citizens in the rich countries would have to adapt to a materially lower standard of living. That is, while the basic needs of the global population can be met in a non-growing economy, not all wants and preferences can be fulfilled (Koch et al., 2017). Undoubtedly, many people in the rich countries would experience various limitations on their consumption opportunities as a violent encroachment on their personal freedom. Indeed, whereas many recognize that contemporary consumer societies are environmentally unsustainable, fewer are prepared to actually change their own lifestyles to reverse/address this.

#### Double bind --- either Marxism already happened and failed or it hasn’t happened because workers will never join the rev.

Rosa **Lichtenstein 12**, Marxist scholar, “Anti-Dialectics For Dummies,” http:anti-dialectics.co.uk/Anti-D\_For\_Dummies%2001.htm

Unfortunately, Dialectical Marxism has not known much in the way of success. The 1917 revolution has been reversed, practically every single 'socialist' state has abandoned Marxism (indeed, the workers in those countries did not lift a finger to defend 'their state' -- compare that with the fierce fight for freedom mounted by ordinary workers, in the face of vicious repression, which we witnessed across North Africa and the Middle East in 2011). All four Internationals have gone down the pan, and few revolutionary parties these days can boast active membership rolls that rise much above the risible. To cap it all, billions of workers world-wide not only ignore DM, **they have never even heard of it.** And yet, most dialecticians claim that DM/MD lies at the heart of revolutionary theory and practice, and represents the "world-view of the proletariat"! If so, why have none of them drawn the obvious conclusion -- history has refuted their theory? If theory is indeed tested in practice, then either DM has never been used by revolutionaries (despite what they say), or it has been used and has thus been refuted.

#### Evolutionary psychology confirms

**Wilkinson 5** (Will, Policy Analyst for Cato, MA in Philosophy, Citing: Oliver Goodenough, BA from Harvard and JD from UPenn, Christine Prehn, Neuroscientist @ Berlin NeuroImaging Center, University Medicine, Leda Cosmides, PhD in Cognitive Psychology from Harvard, Founder of Evolutionary Psychology, and John Tooby, PhD in Biological Anthropology, Founder of Evolutionary Psychology, January/February 2005, "Capitalism and Human Nature," Cato Policy Report, https://object.cato.org/sites/cato.org/files/serials/files/policy-report/2005/1/cpr-27n1-1.pdf)//KEN

The problem of distributing scarce resources can be handled in part by implicitly coercive allocative hierarchies. An alternative solution to the problem of distribution is the recognition and enforcement of property rights. Property rights are **prefigured** in nature by the way animals mark out territories for their exclusive use in foraging, hunting, and mating. Recognition of such rudimentary claims to control and exclude minimizes costly conflict, which by itself provides a strong evolutionary reason to look for innate tendencies to recognize and respect norms of property. New scientific research provides even stronger evidence for the existence of such property “instincts.” For example, recent experimental work by Oliver Goodenough, a legal theorist, and Christine Prehn, a neuroscientist, suggests that the human mind **evolved specialized modules** for making judgments about moral transgressions, and transgressions against property in particular. Evolutionary psychology can help us to understand that property rights are not created simply by strokes of the legislator’s pen. Mutually Beneficial Exchange Is Natural Trade and mutually beneficial exchange are human universals, as is the division of labor. In their groundbreaking paper, “Cognitive Adaptations for Social Exchange,” Cosmides and Tooby point out that, contrary to widespread belief, hunter-gatherer life is not “a kind of retro-utopia” of “indiscriminate, egalitarian cooperation and sharing.” The archeological and ethnographic evidence shows that hunter-gatherers were involved in numerous forms of trade and exchange. Some forms of hunter-gatherer trading can involve quite complex specialization and the interaction of supply and demand. Most impressive, Cosmides and Tooby have shown through a series of experiments that human beings are able easily to solve complex logical puzzles involving reciprocity, the accounting of costs and benefits, and the detection of people who have cheated on agreements. However, we are unable to solve formally identical puzzles that do not deal with questions of social exchange. That, they argue, points to the existence of “functionally specialized, content-dependent cognitive adaptations for social exchange.” In other words, the human mind is “built” to trade. Trust and Hayek’s Two Orders It is easy to see a kind of in vitro capitalism in the evolved human propensity to recognize property rights, specialize in productive endeavors, and engage in fairly complex forms of social exchange. However, the kind of freedom and wealth we enjoy in the United States remains a chimera to billions. Although our evolved capacities are the scaffolding upon which advanced liberal capitalism has been built, they are, quite plainly, not enough, as the hundreds of millions who live on less than a dollar a day can attest. The path from the EEA to laptops and lattes requires a great cultural leap. In recent work, Nobel Prize–winning economists Douglass North and Vernon Smith have stressed that the crucial juncture is the transition from personal to impersonal exchange. Economic life in the EEA was based on repeated face-to-face interactions with wellknown members of the community. Agreements were policed mainly by public knowledge of reputation. If you cheated or shirked, your stock of reputation would decline, and so would your prospects. Our evolutionary endowment prepared us to navigate skillfully through that world of personal exchange. However, it did not prepare us to cooperate and trade with total strangers whom we had never met and might never see again. The road to prosperity must cross a chasm of uncertainty and mistrust. The transition to an extended, impersonal market order requires the emergence of “institutions that make human beings willing to treat strangers as honorary friends,” as Paul Seabright puts it. The exciting story of the way those institutions piggybacked on an evolved psychology designed to solve quite different ecological problems is the topic of Seabright’s book, The Company of Strangers, as well as an important part of forthcoming works by North and Smith. As he so often did, here, too, F. A. Hayek anticipated contemporary trends. He understood that our kind of economy and society, which he called an extended order, or “macrocosmos,” is in many ways alien to our basic psychological constitution, which is geared to deal with life in small groups, the “microcosmos.” We live in two worlds, the face-toface world of the tribe, family, school, and firm and the impersonal, anonymous world of huge cities, hyper-specialization, and trans world trade. Each world has its own set of rules, and we confuse them at our peril. As Hayek writes in The Fatal Conceit: If we were to apply the unmodified, uncurbed, rules of the micro-cosmos (i.e., of the small band or troop, or of, say, our families) to the macro-cosmos (our wider civilization), as our instincts and sentimental yearnings often make us wish to do, we would destroy it. Yet if we were always to apply the rules of the extended order to our more intimate groupings, we would crush them. So we must learn to live in two sorts of worlds at once. The balance is delicate. Once we appreciate the improbability and fragility of our wealth and freedom, it becomes clear just how much respect and gratitude we owe to the belief systems, social institutions, and personal virtues that allowed the emergence of our “wider civilization” and that allow us to move between our two worlds without destroying or crushing either. Evolutionary Psychology and Political Humility The key political lesson of evolutionary psychology is simply that there is a universal human nature. The human mind comprises many distinct, specialized functions and is not an all-purpose learning machine that can be reformatted at will to realize political dreams. The shape of society is constrained by our evolved nature. Remaking humanity through politics is a biological impossibility on the order of curing cancer with pine needle tea. We can, however, work with human nature—and we have. We have, through culture, enhanced those traits that facilitate trust and cooperation, channeled our coalitional and status-seeking instincts toward productive uses, and built upon our natural suspicion of power to preserve our freedom. We can, of course, do better. As Immanuel Kant famously remarked, “From the crooked timber of humanity no truly straight thing can be made.” But, in the words of philosopher Denis Dutton, It is not . . . that no beautiful carving or piece of furniture can be produced from twisted wood; it is rather that whatever is finally created will only endure if it takes into account the grain, texture, natural joints, knotholes, strengths and weaknesses of the original material. Evolutionary psychology, by helping us to better understand human nature, can aid us in cultivating social orders that do not foolishly attempt to cut against the grain of human nature. We can learn how best to work with the material of humanity to encourage and preserve societies, like our own, that are not only beautiful but will endure.

#### This means it’s not about solving for capitalism – no one can do that – it’s about instituting a better form of capitalism – the world of the neg is better than the world of the aff because we stop capitalist Earth mining which causes oppression, conflict, and environmental degradation

#### IF they manage to win that cap isn’t inevitable, we still win – counterplan solves most of the aff and garners offense off of solving for oppression which outweighs

#### No plan justifies no perms –

Perms are a test of competition between competing plans – if you don’t defend any plan, you can’t test competition

Not completing plantext allows the aff to add extra mandates throughout the round which gives you unfair perm ground bc you can add planks to the aff which justifies perms

### DA: China Clean Tech

#### Uniqueness

#### China is on the brink of Space based solar to provide inexhaustible energy

**Snowden 19** (Scott Snowden, Mar 12, 2019, has written about science and technology for 20 years for publications around the world, Solar Power Stations In Space Could Supply The World With Limitless Energy, Forbes, <https://www.forbes.com/sites/scottsnowden/2019/03/12/solar-power-stations-in-space-could-supply-the-world-with-limitless-energy/?sh=23471fec4386> ) SJ

While on the surface of the Earth, society still struggles to adopt solar energy solutions, many scientists maintain that giant, space-based solar farms could provide an environmentally-friendly answer to the world's energy crisis. Only last week, we reported that China [was planning to](https://www.forbes.com/sites/scottsnowden/2019/03/05/china-plans-to-build-the-worlds-first-solar-power-station-in-space/#51f7f9c35c94) build the world's first solar power station to be positioned in Earth's orbit. Because the sun always shines in space, an orbital solar power station is seen as an inexhaustible source of clean energy. "Above the Earth, there's no day and night cycle and no clouds or weather or anything else that might obstruct the sun's ray, so a constant power source is available," said Ali Hajimiri, professor of electrical engineering at the California Institute of Technology and co-director of the university’s [Space Solar Power Project](https://www.spacesolar.caltech.edu/). Collecting solar power in space and wirelessly transmitting was first described by Isaac Asimov in 1941 in his short story Reason. In 1968, American aerospace engineer Peter Glaser published the first technical article on the concept – Power From The Sun: Its Future in the journal [Science](http://www.sciencemag.org/). Space-based solar power attracted considerable attention in the 1970s as the necessary individual technical components – in essence, photovoltaic cells, satellite technology and wireless power transmission – were developed. Despite the concept being technically feasible, it was considered economically unrealistic at the time and research ultimately stalled. “The idea seems to be going through a resurgence and it’s probably because the technology exists to make it happen,” said John Mankins, a former NASA scientist who was at the forefront of this field in the 1990s, before it was abandoned. Global energy demands are only going to grow, says Hajimiri. The global population is expected to reach a staggering 9.6 billion by 2050, according to a [United Nations report](http://www.un.org/en/development/desa/news/population/un-report-world-population-projected-to-reach-9-6-billion-by-2050.html), so methods of generating large quantities of clean energy must be found. A space-based solar power system could provide energy to everyone, even in places that don't receive sunlight all year round, like northern Europe and Russia. In April of 2015, a research agreement between Northrop Grumman and Caltech provided up to $17.5m for the development of innovations necessary to enable a space solar power system. Three Caltech professors head up the project: joining Hajimiri were Harry Atwater and Sergio Pellegrino. Caltech is just one institution working on developing this technology. We know that scientists at the Chongqing Collaborative Innovation Research Institute for Civil-Military Integration in China are constructing a facility to test the theoretical viability of the concept and plans to develop an orbital photovoltaic array [were announced](https://phys.org/news/2009-11-japan-eyes-solar-station-space.html) in Japan some time ago. One of the biggest issues to overcome is that of getting an array of solar panels large enough to make the project viable into orbit. Early concept designs in the 1970s featured giant arrays that would've proved very difficult to actually get into orbit. "The systems of the 70s for solar power satellites, the cost estimates suggested, at that time, that it might be as much as a trillion dollars to get to the first kilowatt hour because of the way the designs worked. Essentially a single satellite, a platform, an integrated, monolithic platform about the size of Manhattan," said Mankins.However, with SpaceX and Blue Origin slowly driving the cost of orbital delivery down, suddenly the concept seems a little closer to reality. "Going to modular systems to allow mass production, I believe was the answer to how to get solar power satellite costs down to something more reasonable," said Mankins.

#### Link

#### Aff crushes the renewable energy investment critical to sustained Chinese growth

Ma 17 (Ma Tianjie, China Dialogue managing editor, Greenpeace's Program Director for Mainland China, “What Trump can learn from China about competitiveness,” 1-17, <http://www.climatechangenews.com/2017/01/17/what-trump-can-learn-from-china-about-competitiveness/)//cmr>

But beyond such grand notions, leaders from around the world may also learn from China’s actual experience in recent years of seeking alternative “engines” of economic growth, a theme that this year’s Davos is keen to explore. President Xi’s entourage of Chinese business leaders this year includes some of the country’s most successful entrepreneurs. A few are from the renewable energy sector, which is one of the country’s fastest growing sectors and key to China achieving its environmental and social goals. So what can the world learn from China’s experience of investing in renewables such as solar and wind? Invigorating the economy China’s renewable power capacity has grown rapidly in recent years. Wind capacity increased 31 gigawatts (GW) in 2015 to 145GW, which is more than Europe. China installed an average of two wind turbines an hour. Solar is also growing quickly, with 15GW installed in 2015 bringing total capacity to 43GW. In both cases these additions were the largest one-year increases achieved by any country. For comparison, the 2015 wind capacity increase was roughly equivalent to the UK’s entire renewable power capacity, while the growth in solar was roughly equivalent to adding the combined solar capacity of the UK and Spain. As a result of this booming sector, renewable energy is a major employer in China. In 2015, it employed 3.5 million people, nearly a million more than work in the Chinese oil and gas sector. Jobs in renewables have grown by 1.8 million since 2012. In comparison, there were 769,000 jobs in the sector in the US in 2015, an increase of just 157,000 since 2012. China believes that its 13th Five-Year Plan will create an additional 13 million renewables jobs by 2020. This is more than 5,000 jobs a day, assuming a constant job creation rate over the 13th Five-Year Plan period (2016-2020). These new jobs include China’s current 3.5 million jobs in renewables. If we consider the fact that fewer than 55,000 people worked in coal mines in the US at the end of 2016, it means in one year, China will create 34 renewables jobs for every US coal mining job. Commitment to invest The strong and steady growth of renewables in China is in large part due to the country’s unwavering commitment to invest in this burgeoning sector. The country’s largest policy bank, the China Development Bank, for example, has been credited for shoring up the solar PV industry at times of great turbulence. Nowadays, China is the world’s largest clean energy investor, investing US$102.9 billion (709.7 billion yuan) in renewables in 2015 (excluding large hydro power). This accounts for 36% of global investment and a 17% increase on 2014. China expects to add a further 100GW of domestic wind power capacity and a similar amount of solar power capacity between 2015 and 2020, to meet its goal of peaking emissions by 2030 at the latest. This will mean investing a further US$361 billion (2.5 trillion yuan) in renewable power by 2020. Today, Chinese companies dominate the global renewable energy market; the world’s largest wind energy company and five of the top six solar firms are Chinese. The country is also investing in clean energy internationally, taking advantage of a rapid global increase in demand for renewable power (clean energy will be the largest single source of power capacity growth in the next five years, according to the International Energy Agency). In 2016, China’s foreign investment in renewables included 11 deals worth more than US$1 billion (6.9 billion yuan), with a total value of US$32 billion (220 billion yuan), a 60% increase on the previous year. Dwarfing the US At this year’s WEF, leaders may receive very different messages from the world’s top two economies when it comes to renewable energy. While China is embracing a sector that many believe will be the basis of how society powers itself in the future, the incoming US administration appears focused on fossil fuels, appointing an oil company executive and a “climate denier” to head the State Department and the Environmental Protection Agency, respectively. China has invested more than the US in renewable energy each year since 2012. US investment in renewables in 2015 was US$44.1 billion (304 billion yuan) – a 19% increase on the previous year, but less than half that of China. The number of renewable energy jobs in the US increased by around 6% in 2015 to 769,000. Employment in solar grew 12 times as fast as overall job creation in the US, overtaking oil and gas extraction (172,400 jobs in December 2016) and coal mining (53,800 jobs). These are impressive numbers on their own. But over the same period, renewable energy jobs in China increased by 133,000, nearly three times as fast. Any change to US policies on climate action or renewables must be seen in the context of the global low-carbon transformation that is underway. Although measures to curb renewables and reward fossil fuel investments in the US could certainly drive renewables investment elsewhere, they are unlikely to pose a threat to the continued deployment of clean energy on a global scale. Along with India and other countries, China is embracing decarbonisation. The overwhelming majority of Chinese people say they are prepared to pay more for low carbon electricity, compared to around half of US citizens, according to polls in 2013 and 2014. As President Xi’s speech at Davos will show, China is embracing more than just decarbonisation. It is poised to harness the powerful forces of the sun, the wind and other renewable sources of energy to reconfigure its massive economy and ensure its future global competitiveness.

#### Impact

#### Collapse causes miscalc and lash-out – global war

Carpenter 15 (Ted Galen, a senior fellow at the Cato Institute and a contributing editor at The National Interest, The National Interest, “Could China's Economic Troubles Spark a War?”, 9/6/15, <http://nationalinterest.org/feature/could-chinas-economic-troubles-spark-war-13784?page=2>, 6/24/16)//cmr

Global attention has focused on the plunge in the Shanghai stock market and mounting evidence that China’s economic growth is slowing dramatically. Moreover, the contagion appears to be spreading, characterized by extreme volatility and alarming declines in America’s own equity markets. Those worries are compounded because there always have been doubts about the accuracy of Beijing’s official economic statistics. Even before the current downturn, some outside experts believed that Chinese officials padded the results, making the country’s performance appear stronger than it actually was. If China is now teetering on the brink of recession, the political incentives for officials to conceal the extent of the damage would be quite powerful. The focus on the possible wider economic consequences of a severe Chinese economic slowdown is understandable, since the ramifications could be extremely unpleasant for the U.S. and global economies. But we should also be vigilant about how such economic stress might affect Beijing’s diplomatic and military behavior. It is not unprecedented for a government that feels besieged to attempt to distract a discontented public by fomenting a foreign policy crisis. In Henry IV, Shakespeare pithily described that process as the temptation to “busy giddy minds with foreign quarrels.” China’s leaders likely feel increasingly uncomfortable. The implicit bargain that has been in place since the onset of market-oriented reforms in the late 1970s has been that if the public does not challenge the Communist Party’s dominant political position, the Party will deliver an ever-rising standard of living for the people. The bloody Tiananmen Square crackdown in 1989 was a graphic reminder of what happens if the Party’s position is challenged. However, until now, the economic portion of the bargain seemed secure, characterized by breathtaking, often double digit, rates of growth. It is uncertain what happens if the Party can no longer maintain its part of the implicit bargain, but it is likely that a dangerous degree of public discontent will surface. Beijing might refrain from deliberately provoking a major foreign policy crisis, since the Chinese economy depends heavily on export markets, and access to those markets would be jeopardized by war. However, the need to preserve and strengthen national unity and distract the public from mounting economic troubles is likely to impel Chinese leaders to adopt very hardline policies in at least three areas. And all of those situations entail the danger of miscalculations that could lead to war. One issue is the South China Sea. Beijing has made extraordinarily broad territorial claims that encompass some 90 percent of that body of water. China is pressing its claims with air and naval patrols and the building of artificial islands. Those policies have brought Beijing into acrimonious disputes with neighbors such as Vietnam and the Philippines, which have rival territorial claims, and with the world’s leading maritime power, the United States, which resists any manifestation of Chinese control over the South China Sea and the crucial commercial lanes that pass through it. The conditions are in place for a nasty confrontation. Chinese leaders have already stressed the country’s alleged historical claims to the area, and made it clear that it will not tolerate being subjected to humiliation by outside powers. Such arguments are designed to gain domestic support by reminding the Chinese people of the country’s long period of weakness and humiliation in the 1800s and early 1900s. A second issue is Taiwan. Beijing has long argued that Taiwan is rightfully part of China and was stolen from the country in the Sino-Japanese war in 1895. Although Chinese leaders have exhibited patience regarding the issue of reunification, relying in large measure on growing cross-strait economic ties to entice Taiwan to eventually accept that outcome, Beijing has also reacted very sharply whenever Taiwanese officials have pushed an agenda of independence, as during the administration of Chen Shui-bian from 2000 to 2008. The danger of renewed confrontation is rising, since public opinion polls indicate that the nominee of Chen’s old party, the pro-independence Democratic Progressive Party, will be Taiwan’s next leader. A new crisis in the Taiwan Strait would be extremely serious, since the United States has obligated itself to consider any Chinese efforts at coercion as a “grave breach of the peace” of East Asia. Yet there is little doubt that there would be widespread domestic support on the mainland for a stern response by the Beijing government to a Taiwanese attempt to enhance its de-facto independence. Indeed, there might be more political danger to the regime if it did not take a strong stance on that issue. The third possible arena for crisis is the East China Sea. China is increasingly adamant about its claims to the Diaoyu/Senkaku islands, which are under Japanese control. From China’s perspective, those islands were stolen by Imperial Japan at the same time that Tokyo took possession of Taiwan following the 1895 war. And ginning up public anger against Japan is never difficult. China just finished celebrating the 70th anniversary of the end of World War II, which is touted in China as “the Chinese People’s War of Resistance Against Japanese Aggression and the World Anti-Fascist War.” Recalling Japan’s invasion of China, and the resulting atrocities, was a prominent theme of the various commemorative events. But the animosity is not based solely on historical grievances. Anger at Japan over the ongoing East China Sea dispute and other matters has already produced anti-Japanese riots in Chinese cities, characterized by attacks on Japanese businesses and automobiles. There is a powerful incentive for Chinese leaders to take an uncompromising stance on the Diaoyu/Senkaku feud, confident that the Chinese people will back such a stance. All of this suggests that the United States and its allies need to proceed cautiously about dealing with China, especially on these three issues. Now is not the time to press a Chinese leadership that likely feels beleaguered by the country’s economic woes. The last thing we should do is give those leaders further temptation to distract the Chinese people with a foreign policy confrontation. Such a strategy entails the grave risk of miscalculation and escalation, and that would be a tragedy for all concerned.

#### Solves the aff – uniqueness and link prove infinite renewable energy which solves back for environmental problems

#### Global war turns the aff – forces people to focus on the war and people therefore can’t focus on anticapitalist movements and saving the environment

#### Global war outweighs the aff on timeframe -

#### Timeframe outweighs other framing metrics -

### Case – Plan

No plan is KILLER

### Case – Impact

Nonunique –

Empirics flow neg –