#### .

## 1

#### Interpretation: Affirmatives must defend a ban on a form of private appropriation.

#### Violation: Recognition as a “global commons” does not ban private appropriation in any form.

#### Global commons isn’t common ownership and can’t prevent private property interests.

Goehring 21- John S. Goehring [B.A., University of California, Berkeley; J.D., Tulane Law School; LL.M., McGill University, Institute of Air and Space Law) is a space and international law attorney for the Department of Defense and a judge advocate in the United States Air Force Reserve], “Why Isn’t Outer Space a Global Commons?” *Journal of National Security Law and Policy*. Vol. 11:573. (June 3, 2021).<https://jnslp.com/wp-content/uploads/2021/09/Why\_Isnt\_Outer\_Space\_a\_Global\_Commons\_2.pdf> BCortez

The question of accuracy raises a second lesson: discourse about the global commons, particularly with regard to the space domain, is not as simple as the EO may suggest. “Global commons” is not some talismanic term that demands every utterance invoke Elinor Ostrom, even though the EO may treat it as such. Instead, it has multiple legitimate meanings, and they can apply to outer space in different ways. Outer space is a global commons in the sense of being a domain beyond national jurisdiction and with free and open access, but it is not a global commons in the sense of being commonly owned such that nations cannot assert private property interests in space resources. Both of these interpretations find support in the Outer Space Treaty (although the latter interpretation remains a point of contention for some). It is also not a global commons in the sense of being a singular type of open access physical resource, yet particular resources within outer space, such as LEO, may reasonably be regarded as such. Accordingly, accuracy depends on the intended meaning. These ideas should be discussed with language that is precise and used consistently.

#### Vote negative for limits - enabling affirmatives to defend any space policy related to limiting access to space massively explodes negative prep burdens: any article of the OST, any other space treaty, ASAT bans, BMD bans, Limited test flight bans, etc. all have different backgrounds and negative ground – that causes quantity over quality debates which decimates clash which outweighs because it’s the only unique and portable skill we get from debate

#### Drop the debater – abusive advocacies skew substance – 1AR restart doesn’t check 1NC construction.

#### Competing interps – offense proves they’re not reasonable and anything else encourages arbitrary judge intervention.

#### No RVIs – leads to baiting T and chilling checks on abusive AFFs – causes substance crowdout.

## 2

#### Interp: Debaters must disclose tournaments on the 2021-2022 NDCA LD wiki under the actual name of the tournament on tabroom for every round at said tournament. Violation: The names are “Peninsula” and “Apple Valley” on tab

#### See ss from shell below

#### The standard is inclusion - they make debate inaccessible to novices or small schools who compete on the circuit but don’t have access to resources or have knowledge of debate lingo to know the shorthand nicknames for tournaments. Two internal links to accessibility - 1) lets debaters see if you won or lost on tab going for specific strategies or hitting specific strategies, letting debaters adapt around that and b) lets debaters see what speaks judges gave to help them see how good you were at going for x argument. Independently links into reciprocity since if I disclosed one way and you didnt’ you had the advantage in this round. Outweighs - none of their standards matter if debaters can’t access them and means reasonability is uniquely wrong since even a 1 risk of exclusion is bad, you obviously don’t say some level of exclusion is justifie

#### DTD to deter abuse; no rvis – don’t win on being fair and leads to baiting theory

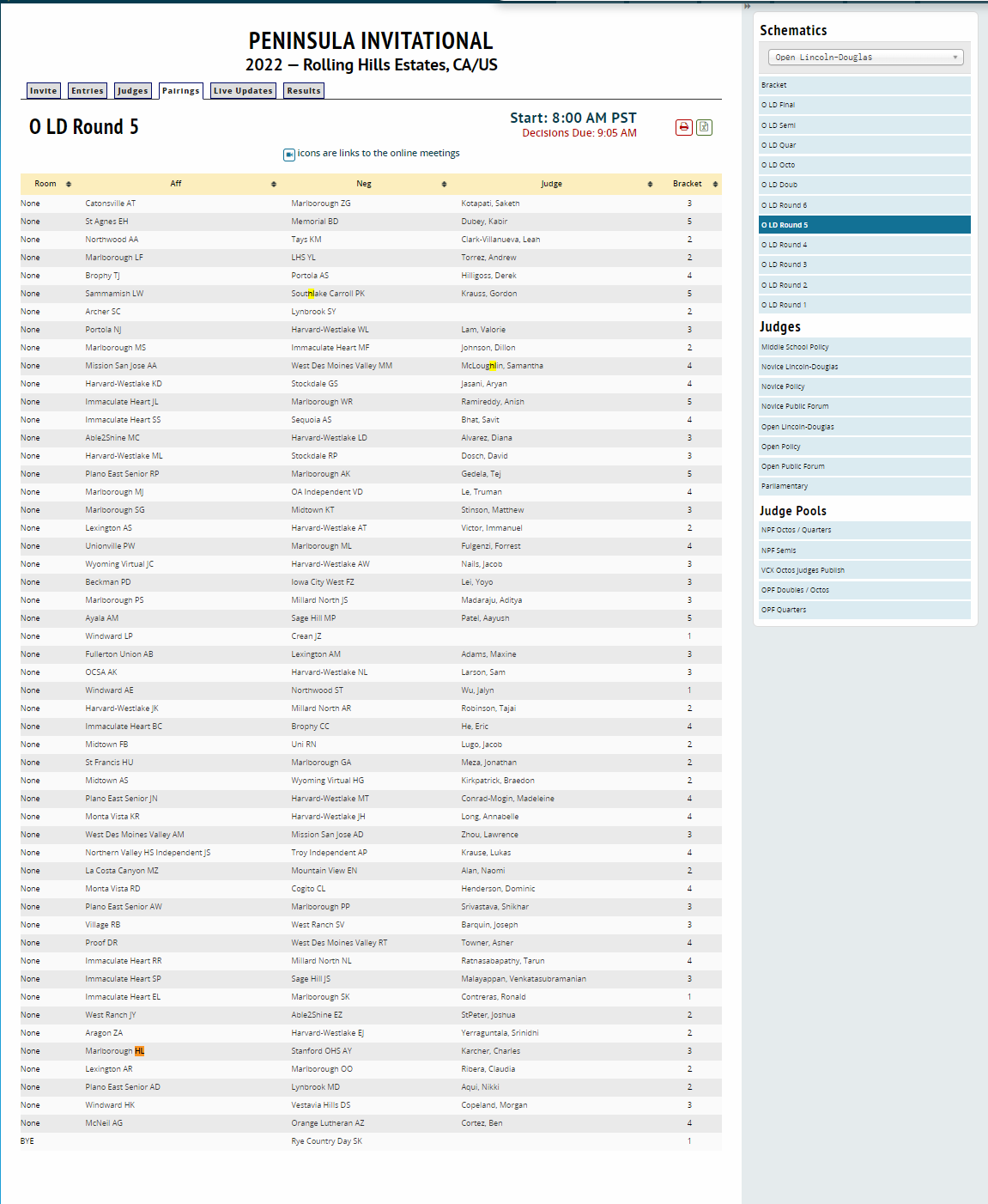
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## 3

#### Interpretation: Debaters must add all rounds they have previously participated in to the 2021-2022 NDCA LD Wiki for the side that they are on at least one hour before the round.

#### Violation – they don’t include peninsula round 5 this screenshot.

#### 



#### Vote neg:

#### 1 – Research skills – open sourcing allows small schools to research better and get back in the game.

#### 2 – Clash – open source allows substantive engagement of positions through preparation rather than ad-hoc generics – that turns their method because refinement of methods through nuanced clash allows for truth testing their arguments and building advocacy skills that are the portable impact to debate.

#### Drop the debater –

#### 1] It’s the same thing as dropping the argument in this case since the argument is the entire case that wasn’t disclosed

#### 2] It’s not what you do, it’s what you justify—voting for me sets a precedent in favor of a positive model of debate—wins and losses determine the direction of activity

#### 3] Deterrence—Dropping the debater will be best because it shows that they can’t run positions that could spread through the community and harm debate as a whole.

4] Drop the debater specifically for not disclosing because there’s no way to rectify the abuse—going and forcing them to disclose now won’t fix the lack of education we get from this round.

## 4

#### Interpretation: the affirmative must specify what a “global commons” entails if they defend it’s implementation.

#### It has no authoritative definiton - causes misunderstood debates

Goehring 21- John S. Goehring [B.A., University of California, Berkeley; J.D., Tulane Law School; LL.M., McGill University, Institute of Air and Space Law) is a space and international law attorney for the Department of Defense and a judge advocate in the United States Air Force Reserve], “Why Isn’t Outer Space a Global Commons?” *Journal of National Security Law and Policy*. Vol. 11:573. (June 3, 2021).<https://jnslp.com/wp-content/uploads/2021/09/Why\_Isnt\_Outer\_Space\_a\_Global\_Commons\_2.pdf> BCortez

The term “global commons” has no authoritative definition.2 Consequently, discourse on the subject is often fraught with misunderstanding because the intended meanings may be unclear or applied inconsistently. Taking this into account, it is submitted that “global commons” is best understood as a label for one of two concepts: an enabling concept or a constraining concept.3

#### Vote neg for clash

#### 1 - Unclear definitions create prep gray zones decimating prep quality because we have to split time between separate strategies

2 - Vagueness lets the 1ar reclarify to shift out of disadvantages and counterplans decimating negative ground

## 5

#### Text – States should implement cooperative active debris removal measures aimed at mitigating debris.

#### ADR solves Debris

ESA 17 ( April 14, 2017 “Active Debris Removal” https://www.esa.int/Our\_Activities/Space\_Safety/Space\_Debris/Active\_debris\_removal)

ESA, as a space technology and operations agency, has identified active removal technologies as a strategic goal. Active Debris Removal (ADR) is necessary to stabilise the growth of space debris, but even more important is that any newly launched objects comply with post-mission disposal guidelines – especially orbital decay in less than 25 years. If this were not the case, most of the required ADR effort would go to compensate for the non-compliance of new objects. Studies performed with long-term evolution models like DELTA have shown that a ‘business as usual’ scenario will lead to a progressive, uncontrolled increase of object numbers in LEO, with collisions becoming the primary debris source. The IADC mitigation measures will reduce the growth, but long-term proliferation is still expected, even with full mitigation compliance, and even if all launch activities are halted. This is an indication that the population of large and massive objects has reached a critical concentration in LEO. But even in a future scenario in which no further objects are added to the space environment (no launches, no debris release, no explosions), the results of simulations by ESA and NASA show that the number of debris objects would continue to grow even under these idealised conditions – under which a collision rate of once every 10 years can be assumed. Furthermore, an IADC study with six different models from 2013 show that in an almost perfect scenario with 90% compliance with the mitigation guidelines and with no explosions on orbit, the population suffers a steady increase, and a collision could be expected every 5–9 years. All these studies are a clear indicator that the population of large and massive objects has reached a critical density in LEO, and that mitigation alone is not sufficient. It is necessary to introduce a programme of remediation measures as well: active debris removal, in order to reduce the number of large and massive (mostly physically intact) objects . The current LEO environment contains about 3200 intact objects. An ESA analysis shows that the (lower) level of around 2500 intact objects (the status in the mid-1990s) would have a 50% probability of decreasing the overall debris population. If this is considered to be a desirable goal for remediation, the number of intact objects has to be reduced even while the world’s spaceflight activities continue. Averaged over the eight years 2004–12, about 72 objects were placed into LEO per year. However, since 2012, there has been a steep increase in the number of satellites placed in LEO, with the count now running at 125 objects per year (average over the four years 2013–16), mainly due to the increased use of small satellites. In addition, in 2015, several companies announced their intention to deploy large constellations of more than around 1000 satellites in LEO to provide fast Internet around the world. Limiting launch rates neither feasible nor helpful Therefore, limiting the launch rate or a further reduction of the allowed lifetime in orbit after the end of the mission (which would be two options to reduce the overall number of intact objects in space) do not seem feasible, because they cannot be mandated. For all new objects, strong compliance with post-mission mitigation measures would allow maintaining the number of intact objects at a level similar to the current one, and avoid having to deal with more objects in addition to those already in orbit. Therefore, in order to reduce the number of big objects in LEO, the only option is to actively remove large objects now in orbit and having a long remaining lifetime in space. This would provide several benefits: The most critical objects (those that would generate the most fragments in case of any collision, and that have a higher collision risk) could be removed from the environment first; Decommissioned objects could also be removed; A controlled deorbit could be performed (as large removal targets typically are also most critical in terms of on-­ground risk). Studies at ESA and NASA show that with a removal sequence planned according to a target selection based on mass, area, or cumulative collision risk, the environment can be stabilised when on the order of 5–10 objects are removed from LEO per year (although the effectiveness of each removal decreases as more objects are removed). Active removal is efficient Active removal can be more efficient in terms of the number of collisions prevented versus objects removed when the following principles are applied for the selection of removal targets, which can be used to generate a criticality index and the according list: The selected objects should have a high mass (they have the largest environmental impact in case of collision); Should have high collision probabilities (e.g. they should be in densely populated regions and have a large cross-sectional area); Should be in high altitudes (where the orbital lifetime of the resulting fragments is long). Long­-term environment simulations can be used to analyse orbital regions that are hotspots for collisions. The most densely populated region in LEO is around 800–1000 km altitude at high inclinations. The collision hotspots can be ranked by the number of collisions predicted to occur under a business as usual scenario. Polar Hotspots High-ranking hotspot regions are at around: 1000 km and 82º inclination; 800 km and 98º inclination; 850 km and 71º inclination. The concentration of critical-size objects in these narrow orbital bands could allow multi-target removal missions. Such missions could be specifically designed for one orbit type were a number of objects of the same type are contained While removal targets should be selected from a global perspective, legal constraints dealing with the ownership of space debris objects, and the validation thereof, cannot be neglected. Also, it should be kept in mind that legal responsibility for a coupled remover/target stack (i.e. when a removal spacecraft attaches itself to a inoperative body for deorbiting) is shared. While removal technology should be generic, i.e. applicable to a wide range of removal targets, which may also include non­ESA objects, special emphasis on firm agreements with the owners of the object is required.

## 6

#### Hard law bans create industry-wide signals which chill innovation

Thierer 18 [Adam Thierer, 11-9-2018, "Is Permissionless Innovation in Space Possible?," Mercatus Center, https://www.mercatus.org/bridge/commentary/permissionless-innovation-space-possible, accessed 1-27-2022] BCortez

This is unfamiliar territory for the FCC, and it would be wise to exercise some policy restraint and patience in this case. The disciplinary measures it employs could be a pivotal signal to entrepreneurs going forward. In the fast-moving, globally-integrated modern world, the Swarm case study highlights the need for more flexible, speedy, and reasonable regulatory review framework at the FCC and other agencies. Creating a smart innovation culture can facilitate the rollout of new technologies that make life better, enhance economic growth, and boost competitive advantage of the US relative to other countries with whom we compete.

Soft Law in Space

The best policy approach here will involve “[soft law](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3118539)”—informal governance tools like multi-stakeholder processes, industry best practices, and agency guidance and consultation. Such mechanisms are becoming the new norm in many other high-tech sectors. While there will always be plenty of traditional “hard laws” on the books that make many practices flatly illegal without prior regulatory permissions, even most regulators understand that heavy-handed approaches discourage beneficial forms of innovation that could boost competition and consumer welfare.

#### The private space industry is the foundation of US economic competitiveness---the space-value chain touches all sectors of the economy.

Kelly George 19. Professor, Embry-Riddle Aeronautical University. “The Economic Impacts of the Commercial Space Industry.” Space Policy 47: 181-186.

As the 1960s was known as the height of the space race propelled by government funding, the 21st century may be known as the commercial space race propelled by private investors that will lend to stimulus to the U.S. and Florida's economy's future structure. Continued domination by government investment in the space industry is a topic of debate as new commercial companies began working in and acting as disruptors to the commercial space sector [3], [21], [24]. Those that may have thought there would not be a stand-alone commercial space industry were surely dealt a blow with the visual of Elon Musk's red sports car driven by Spaceman past the earth that had been launched into orbit by SpaceX on February 6, 2018 [23]. However, in recent years, more evidence of advancements in the commercial space industry have been fulfilled by other private commercial space companies, most notably Blue Origin, Virgin Galactic, Moon Express, and Orbital ATK [8]. The U.S. government policy intentionally embarked on a direction intended to speed innovation and drive costs down by expanding the role of commercial space companies in manufacturing and launch activities [2]; hence, the orbiting sports car. Yet more importantly, reusable rockets, satellites, and associated services have developed as a result of the deliberate shift in federal policy initiated by the Commercial Space Launch Act of 1984 and follow-on public private partnerships that supported launch efforts and satellites [4], [24]. This analysis chose the United States and then more narrowly, the state of Florida as the region to study because of the importance of the industry to the U.S. and the state's specific geographical characteristics and its economy: specifically, the launch/landing facilities and support resources. Also, Florida's governor appointed a commission on space and aeronautics whose goals include advancing the state's economic development across the global aerospace enterprise further emphasizing the role of commercial space in the economy.

Various bodies forecast significant future growth in commercialization of the space industry and its importance for the U.S. economic competitiveness within the global market. The space sector is not solely comprised of launches and satellites but now includes direct consumer applications and personal entertainment. As the commercial space industry has some history of growth and its growth is expected to accelerate, input-output (IO) analysis is useful to help predict what industries will benefit from its growth and inform the government that may want to use this information in their policy or public investment decisions [27], [28], [29]. Discussions regarding expansion of industries often led to polarizing aspects of the debate. This analysis can be useful for researchers, practitioners, and policy-makers in mitigating debate or enhancing discussions by contributing unbiased, accurate quantitative data about the economic impacts of the expansion of an industry.

The Space Project Team of the Organization for Economic Cooperation and Development International Futures Program (IFP) determined that the future demand for commercial space applications is likely to be substantial. They presented 3 likely scenarios that have different geopolitical, socio-economic, and energy and environment characteristics. Using the 3 IFP scenarios for Space 2030 and the presented cost of access to space, this research determines a potential impact from the change in final demand of the space value chain to the U.S. economy. The IFP's estimates spanned a range of 18–40% growth in the industry from 2004 to 2030 [17]. These projections appear to be on track with a $339 billion in economic activity according to a June 2017 Satellite Industry Association report showing growth of 7% from 2013 to 2016. This estimate is a conservative one as Morgan Stanley estimates the industry to be over $1 trillion by 2040 [24]. Because of the interrelations of applications, the space-value chain is made up of 4 broad categories: ground equipment, launch industry and satellite manufacturing which make up the core of the space industrial base, and satellite services [22].

#### US competitiveness underwrites global stability and non-prolif---great power war.

Daniel Bessner 17. \*\*Assistant Professor in American Foreign Policy, University of Washington. \*\*Jim McDermott, Representative for Washington’s 7th District. \*\*Francis Wilson, BA, International Studies, University of Washington. “Redefining American Leadership for an Internationalized Era.” The Henry M. Jackson School of International Studies, University of Washington. Task Force Report. <https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/38693/TaskForceC-Bessner.pdf?sequence=1&isAllowed=y>

America’s status as the world’s most vital nation is as **dependent on its prosperity** as it is on its military might and ability to project power worldwide. The federal **government’s capacity** to allocate resources to our armed forces, the **private sector’s** ability to develop beneficial products and technologies, and the satisfaction of the domestic public are all **closely tied** to the continued growth of American wealth at home and abroad. This has been proven repeatedly during periods where the United States has faced its greatest **existential threats**: Nazi Germany and Imperial Japan were unable to keep up with the sheer industrial output of the American heartland, while the Soviet Empire lost control of its satellites in great part due to their desire to benefit from the Western free market system.

Therefore, the formulation of a **long-term strategy** that anticipates the potential disruptions and opportunities of the new global economy is as important as questions of diplomacy and military strategy. As the United States evaluates how it will face the rapidly changing and increasingly interconnected world of the 21st century, it **must** take into account its **economic interests** as well as the potential economic costs associated with achieving its political objectives.

Since the beginning of the Cold War, America’s **unparalleled** ability to influence countries through nonviolent means has been critical to the **preservation of global stability**. The most relevant example of this in our history is the Marshall Plan, which leveraged American capital to provide a devastated post-War Europe with almost 120 billion dollars (adjusted for inflation) in aid. This aid was critical to preventing the spread of Soviet influence into Western Europe, and laid the foundation for an economically strong region stretching from Portugal to Austria that has been free from inter-state conflict since 1945. Because of the pragmatic exercise of economic influence, the European Union is now our strongest ally as well as our largest trading partner.

Worldwide, the liberal economic system that the United States has promoted through international trade organizations like the WTO has contributed to unprecedented economic cohesion between states. When countries are tied together in the mutually beneficial exchange of goods, the opportunity cost of war goes up significantly, making political leaders much more likely to de-escalate and rely on nonviolent means to resolve conflicts.

Our **economy** also plays a key role in helping the United States deal with states that threaten stability. The American ability to impose **sanctions** has been a **formidable tool** for discouraging **nuclear prolif**eration and punishing violators of international norms. When more direct means of coercion are required, a powerful industrial and technological base enables the maintenance of a well-funded and technologically advanced military.

America’s advanced 17 trillion-dollar economy has allowed it to exert the influence that it does in the world today. However, our economic strength and the skill of our workforce, which have always underwritten our international influence, **should not be taken for granted**. Rapid growth in the developing world means that American companies and workers must now contend in an increasingly crowded global marketplace. In the new “knowledge economy,” educating America’s workers and ensuring that the United States **retains its role as an innovation capital must take the highest priority**. On the business side, reforming America’s institutions and removing barriers to expansion and innovation will encourage the companies of the future to make their start here.

#### Military readiness solves every threat---economic leadership ensures military overmatch but decline emboldens rivals and causes miscalc and arms races that escalate.

Hal Brands 18. Henry A. Kissinger Distinguished Professor of Global Affairs at the Johns Hopkins University School of Advanced International Studies, Senior Fellow at the Center for Strategic and Budgetary Assessments and the Foreign Policy Research Institute, Ph.D. in history from Yale University. “Chapter 6: Does America Have Enough Hard Power?” American Grand Strategy in the Age of Trump; pp. 129-133.

Much contemporary commentary favors the first option—reducing commitments—and denounces the third as financially ruinous and perhaps impossible.5 Yet significantly expanding American capabilities would not be nearly as economically onerous as it may seem. Compared to the alternatives, in fact, this approach represents the best option for sustaining American primacy and preventing a slide into strategic bankruptcy that will eventually be punished. Since World War II, the United States has had a military second to none. Since the Cold War, America has committed to having overwhelming military primacy. The idea, as George W. Bush declared in 2002, that America must possess “strengths beyond challenge” has featured in every major U.S. strategy document for a quarter century; it has also been reflected in concrete terms.6 From the early 1990s, for example, the United States consistently accounted for around 35 to 45 percent of world defense spending and maintained peerless global power-projection capabilities.7 Perhaps more important, U.S. primacy was also unrivaled in key overseas strategic regions—Europe, East Asia, the Middle East. From thrashing Saddam Hussein’s million-man Iraqi military during Operation Desert Storm, to deploying—with impunity—two carrier strike groups off Taiwan during the China-Taiwan crisis of 1995– 96, Washington has been able to project military power superior to anything a regional rival could employ even on its own geopolitical doorstep. This military dominance has constituted the hard-power backbone of an ambitious global strategy. After the Cold War, U.S. policymakers committed to averting a return to the unstable multipolarity of earlier eras, and to perpetuating the more favorable unipolar order. They committed to building on the successes of the postwar era by further advancing liberal political values and an open international economy, and to suppressing international scourges such as rogue states, nuclear proliferation, and catastrophic terrorism. And because they recognized that military force remained the ultima ratio regum, they understood the centrality of military preponderance. Washington would need the military power necessary to underwrite worldwide alliance commitments. It would have to preserve substantial overmatch versus any potential great-power rival. It must be able to answer the sharpest challenges to the international system, such as Saddam’s invasion of Kuwait in 1990 or jihadist extremism after 9/11. Finally, because prevailing global norms generally reflect hard-power realities, America would need the superiority to assure that its own values remained ascendant. It was impolitic to say that U.S. strategy and the international order required “strengths beyond challenge,” but it was not at all inaccurate. American primacy, moreover, was eminently affordable. At the height of the Cold War, the United States spent over 12 percent of GDP on defense. Since the mid-1990s, the number has usually been between 3 and 4 percent.8 In a historically favorable international environment, Washington could enjoy primacy—and its geopolitical fruits—on the cheap. Yet U.S. strategy also heeded, at least until recently, the fact that there was a limit to how cheaply that primacy could be had. The American military did shrink significantly during the 1990s, but U.S. officials understood that if Washington cut back too far, its primacy would erode to a point where it ceased to deliver its geopolitical benefits. Alliances would lose credibility; the stability of key regions would be eroded; rivals would be emboldened; international crises would go unaddressed. American primacy was thus like a reasonably priced insurance policy. It required nontrivial expenditures, but protected against far costlier outcomes.9 Washington paid its insurance premiums for two decades after the Cold War. But more recently American primacy and strategic solvency have been imperiled. THE DARKENING HORIZON For most of the post–Cold War era, the international system was— by historical standards—remarkably benign. Dangers existed, and as the terrorist attacks of September 11, 2001, demonstrated, they could manifest with horrific effect. But for two decades after the Soviet collapse, the world was characterized by remarkably low levels of great-power competition, high levels of security in key theaters such as Europe and East Asia, and the comparative weakness of those “rogue” actors—Iran, Iraq, North Korea, al-Qaeda—who most aggressively challenged American power. During the 1990s, some observers even spoke of a “strategic pause,” the idea being that the end of the Cold War had afforded the United States a respite from normal levels of geopolitical danger and competition. Now, however, the strategic horizon is darkening, due to four factors. First, great-power military competition is back. The world’s two leading authoritarian powers—China and Russia—are seeking regional hegemony, contesting global norms such as nonaggression and freedom of navigation, and developing the military punch to underwrite these ambitions. Notwithstanding severe economic and demographic problems, Russia has conducted a major military modernization emphasizing nuclear weapons, high-end conventional capabilities, and rapid-deployment and special operations forces— and utilized many of these capabilities in conflicts in Ukraine and Syria.10 China, meanwhile, has carried out a buildup of historic proportions, with constant-dollar defense outlays rising from US$26 billion in 1995 to US$226 billion in 2016.11 Ominously, these expenditures have funded development of power-projection and antiaccess/area denial (A2/AD) tools necessary to threaten China’s neighbors and complicate U.S. intervention on their behalf. Washington has grown accustomed to having a generational military lead; Russian and Chinese modernization efforts are now creating a far more competitive environment. Second, the international outlaws are no longer so weak. North Korea’s conventional forces have atrophied, but it has amassed a growing nuclear arsenal and is developing an intercontinental delivery capability that will soon allow it to threaten not just America’s regional allies but also the continental United States.12 Iran remains a nuclear threshold state, one that continues to develop ballistic missiles and A2/AD capabilities while employing sectarian and proxy forces across the Middle East. The Islamic State, for its part, is headed for defeat, but has displayed military capabilities unprecedented for any terrorist group, and shown that counterterrorism will continue to place significant operational demands on U.S. forces whether in this context or in others. Rogue actors have long preoccupied American planners, but the rogues are now more capable than at any time in decades. Third, the democratization of technology has allowed more actors to contest American superiority in dangerous ways. The spread of antisatellite and cyberwarfare capabilities; the proliferation of man-portable air defense systems and ballistic missiles; the increasing availability of key elements of the precision-strike complex— these phenomena have had a military leveling effect by giving weaker actors capabilities which were formerly unique to technologically advanced states. As such technologies “proliferate worldwide,” Air Force Chief of Staff General David Goldfein commented in 2016, “the technology and capability gaps between America and our adversaries are closing dangerously fast.”13 Indeed, as these capabilities spread, fourth-generation systems (such as F-15s and F-16s) may provide decreasing utility against even non-great-power competitors, and far more fifth-generation capabilities may be needed to perpetuate American overmatch. Finally, the number of challenges has multiplied. During the 1990s and early 2000s, Washington faced rogue states and jihadist extremism—but not intense great-power rivalry. America faced conflicts in the Middle East—but East Asia and Europe were comparatively secure. Now, the old threats still exist—but the more permissive conditions have vanished. The United States confronts rogue states, lethal jihadist organizations, and great-power competition; there are severe challenges in all three Eurasian theaters. “I don’t recall a time when we have been confronted with a more diverse array of threats, whether it’s the nation state threats posed by Russia and China and particularly their substantial nuclear capabilities, or non-nation states of the likes of ISIL, Al Qaida, etc.,” Director of National Intelligence James Clapper commented in 2016. Trends in the strategic landscape constituted a veritable “litany of doom.”14 The United States thus faces not just more significant, but also more numerous, challenges to its military dominance than it has for at least a quarter century.

## Case

#### Vote neg on circumvention – definitions as an “enabling concept” enable unprecedented expansion of space appropriation which turns the aff

Goehring 21- John S. Goehring [B.A., University of California, Berkeley; J.D., Tulane Law School; LL.M., McGill University, Institute of Air and Space Law) is a space and international law attorney for the Department of Defense and a judge advocate in the United States Air Force Reserve], “Why Isn’t Outer Space a Global Commons?” *Journal of National Security Law and Policy*. Vol. 11:573. (June 3, 2021).<https://jnslp.com/wp-content/uploads/2021/09/Why\_Isnt\_Outer\_Space\_a\_Global\_Commons\_2.pdf> BCortez

* The PDF copy and pasted the footnotes where they were supposed to be.

When used in a military or geopolitical context, “global commons” is typically used as an enabling concept. It refers to domains “that lie outside the exclusive jurisdiction of any particular state but may be accessed and used by those states or their nationals.”4 The Obama Administration, for instance, referred to the global commons as simply “those areas beyond national jurisdiction that constitute the vital connective tissue of the international system.”5 U.S. DEP’T OF DEFENSE, SUSTAINING GLOBAL LEADERSHIP: PRIORITIES FOR 21ST CENTURY DEFENSE 3 (Jan. 2012), https://perma.cc/47T3-698E. These domains include the high seas, the airspace outside of a state’s territorial waters, and outer space.6 See JOINT CHIEFS OF STAFF, U.S. DEP’T OF DEFENSE, JOINT OPERATING ENVIRONMENT 2035: THE JOINT FORCE IN A CONTESTED AND DISORDERED WORLD 30 (July 14, 2016) [hereinafter JOE 2035], https://perma.cc/JUE9-FLLC. The electromagnetic spectrum and cyberspace have also been described as global commons.7 This concept is enabling in the sense that these traits – lying beyond national jurisdiction and free for access by all – are thought to enable prosperity and security. “Prosperity of the United States depends upon its largely uncontested ability to access and use the global commons,” according to the 2016 Joint Chiefs of ∂ Staff report Joint Operating Environment (JOE) 2035. 8 JOE 2035 further asserts “[o]pen and accessible global commons,” including outer space, “are the pillars of the current international economy and empower states that use them to conduct commerce, transit, scientific study, or military surveillance and presence.” The Joint Chiefs of Staff also observed in the Joint Operational Access Concept, released in 2012, that U.S. access to the global commons, including outer space, is “vital to its national interests, both because the American way of life requires free access to the global marketplace and as a means for projecting military force into hostile territory.”9 In a defense review directed by President Obama, Secretary of Defense Leon Panetta identified the importance of protecting freedom of access to the global commons, including outer space, “to enable economic growth and commerce.”10 “The United States will continue to lead global efforts with capable allies and partners,” the report emphasized in italics, “to assure access and use of the global commons, both by strengthening international norms of responsible behavior and by maintain relevant and interoperable military capabilities.”11 More recently, Vice President Mike Pence embraced the importance of the commons. “[T]o make it clear to Beijing that no nation has a right to claim the maritime commons as territorial seas,” he said, “the United States, in the last year, has increased the tempo and scope of our freedom of navigation operations and strengthened our military presence across the Indo-Pacific.”12∂ While the Department of Defense is perhaps the most prominent organization to apply the label in this manner, it not the only entity that has espoused the importance of the global commons as an enabling concept. The Congressional Research Service has observed that the treatment of international waters, international air space, and outer space as “international commons” is a “key feature” of international order.13 Similarly, the U.S.-China Economic and Security Review Commission has observed that “norms against altering borders by force and for access to the open global commons (e.g., freedom of the seas) are inherent” to the concept of the “liberal rules-based international order.”14 Internationally, a NATO report has affirmed “[i]t is within, through, and from the Commons that trade, communications, transportation, and security operations take place.”∂ Private think tanks also recognize the global commons as an important enabling concept. A report by the RAND Corporation has concluded “[i]f the global commons of the high seas, the internet, or outer space are turned into arenas where actors of unknown provenance can carry out attacks on peaceful status quo powers with impunity, then the order that has supported peace and development will itself be at risk.”16 The Heritage Foundation also recently concluded that “a review of relevant top-level national security documents issued by a long string of presidential Administrations” consistently stated three national security interests, including the “[p]reservation of freedom of movement within the global commons: the sea, air, outer space, and cyberspace domains through which the nations of the world conduct their business.”17 THE HERITAGE FOUNDATION, 2020 INDEX OF MILITARY STRENGTH 2 (Dakota L. Wood, ed., 2020), https://perma.cc/Q3X4-C9KA. For its part, the Center for Strategic & International Studies (CSIS) has espoused a “Command the Commons Approach” to security, meaning “that the United States gets vastly more military use of the sea, space, and air than do others, that the United States can credibly threaten to deny their use to others, and that others would lose a military contest for the commons if they attempted to deny them to the United States.”18 KATHLEEN H. HICKS & JOSEPH FEDERICI, GETTING TO LESS? EXPLORING THE PRESS FOR LESS IN AMERICA’S DEFENSE COMMITMENTS, CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES 3 (2020), https://perma.cc/26RA-5XJX. To be sure, “commons” and “global commons” can be used imprecisely in these contexts. Territorial seas, for example, are subject to national jurisdiction under international law, but this distinction is sometimes glossed over by those espousing the “sea” as a global commons. Nevertheless, the potential for a term with no authoritative meaning to be used imprecisely does not detract from the legitimacy of using it to describe the enabling concept.

Fiat doesn’t solve – you can fiat the plan not what happens after – I could fiat an impact otherwise – kills neg ground

Their empirics don’t solve either – people being willing to implement the plan doesn’t prove it’s effectiveness

### Debris Advantage

#### Public sector mining thumps

NASA 19 [“NASA Invests in Tech Concepts Aimed at Exploring Lunar Craters, Mining Asteroids,” NASA, June 11, 2019, <https://www.nasa.gov/press-release/nasa-invests-in-tech-concepts-aimed-at-exploring-lunar-craters-mining-asteroids>] TDI

NASA Invests in Tech Concepts Aimed at Exploring Lunar Craters, Mining Asteroids

Robotically surveying lunar craters in record time and mining resources in space could help NASA establish a sustained human presence at the Moon – part of the agency’s broader [Moon to Mars exploration](https://www.nasa.gov/specials/moon2mars/) approach. Two mission concepts to explore these capabilities have been selected as the first-ever Phase III studies within the [NASA Innovative Advanced Concepts](https://www.nasa.gov/niac) (NIAC) program.

“We are pursuing new technologies across our development portfolio that could help make deep space exploration more Earth-independent by utilizing resources on the Moon and beyond,” said Jim Reuter, associate administrator of NASA’s Space Technology Mission Directorate. “These NIAC Phase III selections are a component of that forward-looking research and we hope new insights will help us achieve more firsts in space.”

The Phase III proposals outline an aerospace architecture, including a mission concept, that is innovative and could change what’s possible in space. Each selection will receive as much as $2 million. Over the course of two years, researchers will refine the concept design and explore aspects of implementing the new technology. The inaugural Phase III selections are:

Robotic Technologies Enabling the Exploration of Lunar Pits

William Whittaker, Carnegie Mellon University, Pittsburgh

This mission concept, called Skylight, proposes technologies to rapidly survey and model lunar craters. This mission would use high-resolution images to create 3D model of craters. The data would be used to determine whether a crater can be explored by human or robotic missions. The information could also be used to characterize ice on the Moon, a crucial capability for the sustained surface operations of NASA’s Artemis program. On Earth, the technology could be used to autonomously monitor mines and quarries.

[Mini Bee Prototype to Demonstrate the Apis Mission Architecture and Optical Mining Technology](https://www.nasa.gov/directorates/spacetech/niac/2019_Phase_I_Phase_II/Mini_Bee_Prototype)

Joel Sercel, TransAstra Corporation, Lake View Terrace, California

This flight demonstration mission concept proposes a method of asteroid resource harvesting called optical mining. Optical mining is an approach for excavating an asteroid and extracting water and other volatiles into an inflatable bag. Called Mini Bee, the mission concept aims to prove optical mining, in conjunction with other innovative spacecraft systems, can be used to obtain propellant in space. The proposed architecture includes resource prospecting, extraction and delivery.

#### Nearly ZERO risk to any given satellite even ASSUMING cascades, Aff can’t solve it, and every other risk to spacecraft outweighs

Wein 9 [Lawrence M. Wein, Professor & Senior Fellow at Stanford’s Center for International Security and Cooperation Jeffrey S. Skoll Professor of Management Science at Stanford University and Senior Fellow at Stanford’s Center for International Security and Cooperation, former DEC Leaders for Manufacturing Professor of Management Science at MIT, and Andrew M. Bradley, PhD-Institute for Computational and Mathematical Engineering at Stanford University, Space debris: Assessing risk and responsibility, Advances in Space Research 43 (2009) 1372–1390]

More importantly, while our numerical results mimic earlier results (Liou and Johnson, 2005; Walker and Martin, 2004) that stressed the importance of postmission deorbiting, we do not necessarily agree with the claim that the only way to prevent future problems is to remove existing large intacts from space (Liou and Johnson, 2006, 2008). The divergence between our views and those in Liou and Johnson (2006, 2008) is perhaps due to the different performance metrics used. The root causes for alarm in Liou and Johnson (2006, 2008) appear to be the growth rate of fragments and the small increase in the rate of catastrophic collisions over the next 200 years (Liou and Johnson, 2008, Fig. 2). However, the great majority of catastrophic collisions in the SOI do not involve operational spacecraft, and are hazardous only in the sense that the fragments generated from such a collision could subsequently damage or destroy operational spacecraft. Therefore, we introduced the notion of the lifetime risk of an operational spacecraft as the primary performance metric. Our model predicts that the lifetime risk is <5x10^-4 [less than .0005%] over the next two centuries, and always stays <10^-3 [less than .001%] than if there is very high (>98%) spacecraft deorbiting compliance. These risks appear to be low relative to the immense cost and considerable technological uncertainty involved in removing large objects from space, are dwarfed by the ~20% historical mission-impacting (but not necessarily mission-ending) failure rate of spacecraft (Frost and Sullivan, 2004), and could be overestimated if improved traffic management techniques lower future collision risks (Johnson, 2004). Hence, the need to bring large objects down from space does not appear to be as clear cut as suggested in Liou and Johnson (2006, 2008). Nonetheless, our model does not incorporate the possibility of intentional catastrophic collisions (ASAT tests, space wars) that could conceivably occur in the future. In addition, Fig. 5 considers only catastrophic collisions, whereas noncatastrophic intact-fragment collisions could easily disable an operational spacecraft. If the operational lifetime risk is modified to include noncatastrophic collisions with fragments >= 10cm, then the sustainable risk rises by ~50%: it increases from 2.19x10^-2 [.0219%] to 3.09x10^-2 in the base case, and increases from 4.91x10^-4 [.000491%] to 7.94x10^-4 in the full compliance case. Moreover, if fragments >= 1 cm (rather than >= 10 cm) are harmful to spacecraft (Johnson, 2004), then we (as well as other researchers) could be underestimating the risk.

In summary, in the absence of the removal of large objects from space, the sustainable lifetime risks in Figs. 3–5 do not appear to be obviously above or below a tolerable level. Even if these risks are deemed acceptable, it is prudent to invest in research and development for space remediation technologies, which is a topic of current study (Proposal for forming an IAA study group, 2000). However, given the optimality of full deorbit compliance from a societal, sustainable perspective, and the sensitivity of sustainable lifetime risk to postmission deorbit compliance, the primary focus for policymakers should be on increasing compliance, which leads us to a discussion of economic instruments that could be used to address this issue.

### Neoliberalism Advantage

#### 1 - Presumption: preventing space appropriation is a drop in the bucket - globalized trade, expansion of deregulated markets, and keynesian monetary stimulus has propelled neoliberalism across the globe before commercial space and will do so after commercial space

#### Growth is sustainable and solves a laundry list of threats.

Mark **Budolfson 21**. PhD in Philosophy. Assistant Professor in the Department of Environmental and Occupational Health and Justice at the Rutgers School of Public Health and Center for Population–Level Bioethics "Arguments for Well-Regulated Capitalism, and Implications for Global Ethics, Food, Environment, Climate Change, and Beyond". Cambridge Core. 5-7-2021. https://www-cambridge-org.proxy.library.emory.edu/core/journals/ethics-and-international-affairs/article/arguments-for-wellregulated-capitalism-and-implications-for-global-ethics-food-environment-climate-change-and-beyond/96F422D04E171EECDEF77312266AE9DD

Discourse on food ethics often advocates the **anti-capitalist idea** that we need **less capitalism, less growth, and less globalization** if we want to make the world a better and more equitable place, with arguments focused on applications to food, globalization, and a just society. For example, arguments for this anti-capitalist view are at the core of some chapters in nearly every handbook and edited volume in the rapidly expanding subdiscipline of food ethics. None of these volumes (or any article published in this subdiscipline broadly construed) focuses on a defense of globalized capitalism.1∂ More generally, discourse on global ethics, environment, and political theory in much of academia—and in society—increasingly features this anti-capitalist idea as well.2 The idea is especially prominent in discourse surrounding the environment, climate, and global poverty, where we face a nexus of problems of which capitalism is a key driver, including climate change, air and water pollution, the challenge of feeding the world, ensuring sustainable development for the world's poorest, and other interrelated challenges.∂ It is therefore important to ask whether this anti-capitalist idea is justified by **reason and evidence** that is as strong as the degree of confidence placed in it by activists and many commentators on food ethics, global ethics, and political theory, more generally.∂ In fact, many **experts** argue that this anti-capitalist idea is **not supported by reason and argument and is actually wrong**. The main contribution of this essay is to explain the structure of the leading arguments against the anti-capitalist idea, and in favor of the opposite conclusion. I begin by focusing on the general argument in favor of **well-regulated globalized capitalism** as the key to a **just, flourishing, and environmentally healthy world**. This is the most important of all of the arguments in terms of its consequences for health, wellbeing, and justice, and it is endorsed by experts in the **empirically minded disciplines** best placed to analyze the issue, including experts in long-run global development, human health, wellbeing, economics, law, public policy, and other related disciplines. On the basis of the arguments outlined below, well-regulated capitalism has been endorsed by recent Democratic presidents of the United States such as Barack Obama, and by progressive Nobel laureates who have devoted their lives to human development and more equitable societies, as well as by a wide range of experts in government and leading **n**on**g**overnmental **o**rganization**s**.∂ The goal of this essay is to make the structure and importance of these arguments clear, and thereby highlight that discourse on global ethics and political theory should engage carefully with them. The goal is not to endorse them as necessarily sound and correct. The essay will begin by examining general arguments for and against capitalism, and then turn to implications for food, the environment, climate change, and beyond.∂ Arguments for and against Forms of Capitalism∂ The Argument against Capitalism∂ Capitalism is often argued to be a key driver of many of society's ills: inequalities, pollution, land use changes, and incentives that cause people to live differently than in their ideal dreams. Capitalism can sometimes deepen injustices. These negative consequences are easy to see—resting, as they do, at the center of many of society's greatest challenges.3∂ And at the same time, it is often difficult to see the positive consequences of capitalism.4 What are the positive consequences of allowing private interests to clear-cut forests and plant crops, especially if those private interests are rich multinational corporations and the forests are in poor, developing countries whose citizens do not receive the profits from deforestation? Why give private companies the right to exploit resources at all, since exploitation almost always has some negative consequences such as those listed above? These are the right questions to ask, and they highlight genuine challenges to capitalism. And in light of these challenges, it is reasonable to consider the possibility that perhaps a different economic system altogether would be more equitable and beneficial to the global population.∂ The Argument for Well-Regulated Capitalism∂ However, **things are more complicated than the arguments above would suggest**, and the benefits of capitalism, especially for the world's poorest and most vulnerable people, are in fact myriad and **significant**. In addition, as we will see in this section, many experts argue that **capitalism is not the fundamental cause of the** previously described **problems** but rather an essential component of the **best solutions** to them and of the best methods for promoting our goals of health, well-being, and justice.∂ To see where the defenders of capitalism are coming from, consider an analogy involving a response to a pandemic: if a country administered a rushed and untested vaccine to its population that ended up killing people, we would not say that vaccines were the problem. Instead, the problem would be the flawed and sloppy policies of vaccine implementation. Vaccines might easily **remain** absolutely **essential** to the correct response to such a pandemic and could also be essential to promoting health and flourishing, more generally.∂ The argument is similar with capitalism according to the leading mainstream arguments in favor of it: Capitalism is an essential part of the best society we could have, just like vaccines are an essential part of the best response to a pandemic such as COVID-19. But of course both capitalism and vaccines can be implemented poorly, and can even do harm, especially when combined with other incorrect policy decisions. But **that does not mean that we should turn against them**—quite the opposite. Instead, we should **embrace them as essential** to the best and most just outcomes for society, and educate ourselves and others on their importance and on how they must be **properly designed and implemented** with other policies in order to best help us all. In fact, the argument in favor of capitalism is even more dramatic because it claims that much more is at stake than even what is at stake in response to a global pandemic—what is at stake with capitalism is nothing less than **whether the world's poorest and most vulnerable billion people will remain in conditions of poverty and oppression**, or if they will instead finally gain access to what is minimally necessary for basic health and wellbeing and become increasingly affluent and empowered. The argument in favor of capitalism proceeds as follows:∂ Premise 1. Development and the past. Over the course of recorded human history, the majority of historical increases in health, wellbeing, and justice have occurred in the last two centuries, largely as a result of societies adopting or moving toward **capitalism**. Capitalism is a relevant cause of these improvements, in the sense that they could not have happened to such a degree if it were not for capitalism and would **not have happened to the same degree under any alternative** noncapitalist approach to structuring society. The argument in support of this premise relies on observed relationships across societies and centuries between indicators of degree of capitalism, wealth, investments in public goods, and outcomes for health, wellbeing, and justice, together with econometric analysis in support of the conclusion that the best explanation of these correlations and the underlying mechanism is that large increases in health, wellbeing, and justice are largely driven by increasing investments in public goods. The scale of increased wealth necessary to maximize these investments requires **capitalism**. Thus, as capitalist societies have become dramatically wealthier over the past hundred years (and wealthier than societies with alternative systems), this has allowed **larger investments in public goods**, which simply has not been possible in a sustained way in societies without the greater wealth that capitalism makes possible. Important investments in public goods include investments in basic **medical knowledge**, in health and nutrition programs, and in the institutional capacity and know-how to **regulate** society and **capitalism** itself. As a result, capitalism is a **primary driver** of positive outcomes in **health and wellbeing** (such as increased **life expectancy**, **lowered child and maternal mortality**, adequate calories per day, **minimized infectious disease rates**, a lower percentage and number of people in **poverty**, and more reported **happiness**);5 and in **justice** (such as reduced deaths from **war** and homicide; higher rankings in **human rights** indices; the reduced prevalence of **racist, sexist, homophobic opinions** in surveys; and higher literacy rates).6 These **quantifiable positive consequences of global capitalism** dramatically **outweigh** the negative consequences (such as deaths from pollution in the course of development), with the result that the net benefits from capitalism in terms of health, wellbeing, and justice have been greater than they would have been under any known noncapitalist approach to structuring society.7∂ Premise 2. Economics, ethics, and policy. Although capitalism has often been ill-regulated and therefore failed to maximize net benefits for health, wellbeing, and justice, **it can become well-regulated** so that it maximizes these societal goals, by including mechanisms identified by economists and other policy experts that do the following:∂ optimally8 **regulate negative effects** such as pollution and monopoly power, and invest in public goods such as education, basic healthcare, and fundamental research including biomedical knowledge (more generally, policies that correct the failures of free markets that economists have long recognized will arise from “externalities” in the absence of regulation);9∂ ensure equity and distributive justice (for example, via wealth redistribution);10∂ ensure basic rights, justice, and the rule of law independent of the market (for example, by an independent judiciary, bill of rights, property rights, and redistribution and other legislation to correct historical injustices due to colonialism, racism, and correct current and historical distortions that have prevented markets from being fair);11 and∂ ensure that there is no alternative way of structuring society that is more efficient or better promotes the equity, justice, and fairness goals outlined above (by allowing free exchange given the regulations mentioned).12∂ To summarize the implication of the first two premises, **well-regulated capitalism** is **essential** to best achieving our ethical goals—which is true even though capitalism has certainly not always been well regulated historically. Society can still do much better and **remove the large deficits** in terms of health, wellbeing, and justice **that exist under** the current inferior and **imperfect** versions of **capitalism**.∂ Premise 3. Development and the future. If the global spread of capitalism is allowed to continue, desperate **poverty can be** essentially **eliminated** in our lifetimes. Furthermore, this can be accomplished **faster** and in a more just way via **well-regulated** global **capitalism** than by **any alternatives**. If we instead opt for **less capitalism**, less growth, and less globalization, then desperate **poverty will continue** to exist for a significant portion of the world's population into the further future, and the world will be a **worse and less equitable** place than it would have been with more capitalism. For example, in a world with less capitalism, there would be more **overpopulation, food insecurity**, air **pollution**, ill health, injustice, and other problems. In part, this is because of the factors identified by premise 1, which connect a turn away from capitalism with a turn away from continuing improvements in health, wellbeing, and justice, especially for the developing world. In addition, fertility declines are also a consequence of increased wealth, and the size of the population is a primary determinant of **food demand and other environmental stressors**.13 Finally, as discussed at length in the next section of the essay, capitalism can be naturally combined with optimal **environmental regulations**.14 Even bracketing anything like optimal regulation, it remains true that sufficiently **wealthy nations reduce environmental degradation** as they become wealthier, whereas developing nations that are nearing peak degradation will remain **stuck at the worst levels of degradation if we stall growth**, rather than allowing them to transition to less and less degradation in the future via capitalism and economic growth.15 In contrast, well-regulated capitalism is a key part of the best way of coping with these problems, as well as a key part of **dealing with climate change**, global **food production**, and other specific challenges, as argued at length in the next section. Here it is important to stress that we should favor well-regulated capitalism that includes correct investments in public goods over other capitalist systems such as the neoliberalism of the recent past that promoted inadequately regulated capitalism with inadequate concern for externalities, equity, and background distortions and injustices.16∂ Conclusion. Therefore, we should be in favor of capitalism over noncapitalism, and we should especially favor well-regulated capitalism, which is the ethically optimal economic system and is essential to any just basic structure for society.∂ This argument is impressive because, as stated earlier in the essay, it is based on **evidence** that is so striking that it leads a bipartisan range of open-minded thinkers and activists to endorse well-regulated capitalism, including many of those who were not initially attracted to the view because of a reasonable concern for the societal ills with which we began. To better understand why such a range of thinkers could agree that well-regulated capitalism is best, it may help to clarify some things that are not assumed or implied by the argument for it, which could be invoked by other bad arguments for capitalism.∂ One thing the argument above does not assume is that health, wellbeing, or justice are the same thing as wealth, because, in fact, they are not. Instead, the argument above relies on well-accepted, **measurable indicators** of health and wellbeing, such as increased lifespan; decreased early childhood mortality; adequate nutrition; and other empirically measurable leading indicators of health, wellbeing, and justice.17 Similarly, the argument that capitalism promotes justice, **peace**, freedom, human rights, and tolerance relies on empirical metrics for each of these.18∂ Furthermore, the argument does not assume that because these indicators of health, wellbeing, and justice are highly correlated with high degrees of capitalism, that therefore capitalism is the direct cause of these good outcomes. Rather, the analyses suggest instead that something other than capitalism is the direct cause of societal improvements (such as improvements in knowledge and technology, public infrastructure, and good governance), and that capitalism is simply a **necessary condition** for these improvements to happen.19 In other words, the richer a society is, the more it is able to invest in all of these and other things that are the direct causes of health, wellbeing, and justice. But, to maximize investment in these things societies need well-regulated capitalism.∂ As part of these analyses, it is often stressed that current forms of capitalism around the world are highly defective and must be reformed in the direction of well-regulated capitalism because they lack investments in public goods, such as basic knowledge, healthcare, nutrition, other safety nets, and good governance.20 In this way, an argument for a particular kind of **progressive reformism** is an essential part of the analyses that lead many to endorse the more general argument for well-regulated capitalism.∂ Although these analyses are nuanced, and appropriately so, it remains the case that the things that directly lead to health, wellbeing, and justice require resources, and the best path toward generating those resources is well-regulated capitalism. And on the flip side, according to the analyses behind premise 1 described above, an anti-capitalist system would not produce the resources that are needed, and would thus be a **disaster**, especially for the **poorest billion** people who are most desperately in need of the resources that capitalism can create and direct, to escape from extreme poverty.21

#### 3 – Past the tipping point and the alt is dictatorship and genocide---only tech can solve.

Eric **Levitz 5/17/21**. Senior Writer at New York Magazine. MA Johns Hopkins. "We’ll Innovate Our Way Out of the Climate Crisis or Die Trying". Intelligencer. 5-17-2021. https://nymag.com/intelligencer/2021/05/climate-biden-green-tech-innovation.html

Today’s best-case ecological scenario was a horror story just three decades ago. In 1993, Bill Clinton declared that global warming presented such a profound threat to civilization that the U.S. would have to bring its “emissions of greenhouse gases to their 1990 levels by the year 2000.” Instead, we waited until 2020 to do so; in the interim, **humanity burned more carbon than it had since the advent of agriculture**. Now, it will take a historically unprecedented, worldwide economic transformation to freeze warming at **“only” 2 degrees** — a level of temperature rise that will turn “once in a century” storms into annual events, **drown entire island nations**, and render **major cities** in the Middle East **uninhabitable** in summertime (at least for those whose lifestyles involve “walking outdoors without dying of heatstroke”). This is what passes for a **utopian vision in 2021**. If we confine ourselves to mere **optimism** — and assume that every Paris Agreement signatory meets its current pledged target for decarbonization — then warming will hit 2.4 degrees by century’s end.∂ The reality of our ecological predicament invites denial of our political one. Put simply, it is hard to reconcile the scale of the climate crisis with the limits of contemporary American politics. **Delusions rush in to fill the gap**. Among these is the fantasy of national autonomy; the notion that the United States can save the planet or destroy it, depending on the precise timeline of its domestic decarbonization. A rapid energy transition in the U.S. is a vital cause, not least for its potential to expedite similar transformations abroad. But the battle for a sustainable planet will be won or lost in the developing world. Although American consumption played a central role in the history of the climate crisis, it is peripheral to the planet’s future: Over the coming century, U.S. emissions are expected to account for only 5 percent of the global total.∂ There is also the **delusion of “de-growth’s” viability**. The fact that there is no plausible path for global economic expansion that won’t entail climate-induced death and displacement has led some environmentalists to insist on global stagnation. Yet there is neither a mass constituency for this project, nor **any reason to believe that there will be** any time soon. Freeze the status-quo economy in amber, and you’ll **condemn nearly half of humanity to permanent poverty**. Divide existing GDP into perfectly even slices, and every person on the planet will live on about **$5,500 a year**. American voters may express a generalized concern about the climate in surveys, but they don’t seem willing to accept even a modest rise in gas prices — **let alone a total collapse in living standards** — to address the issue. Meanwhile, any Chinese or Indian leader who attempted to stymy income growth in the name of sustainability **would be ousted** in short order. It’s conceivable that one could radically reorder advanced economies in a manner that enabled living standards to rise even as GDP fell; Americans might well find themselves happier and more secure in an ultra-low-carbon communal economy in which individual car ownership is heavily restricted, and housing, healthcare, and myriad low-carbon leisure activities are social rights. But nothing short of an **absolute dictatorship** could affect such a transformation at the necessary speed. And the specter of eco-Bolshevism does not haunt the Global North. Humanity is going to find a way to **get rich sustainably, or die trying**.∂ Thus, the chasm between the ecologically necessary and the politically possible can only be bridged by **technological advance**. And on that front, **the U.S.** actually **has the resources** to make a decisive contribution to global decarbonization — and some **political will** to leverage those resources. Unfortunately, due to some combination of fiscal superstitions and misplaced priorities, the Biden administration’s proposed investments in green innovation remain paltry. An American Jobs Plan with much higher funding for green R&D is both imminently winnable and environmentally imperative. U.S. climate hawks should make securing such legislation a top priority.∂ The choice before us is **techno-optimism** or **barbarism**.∂ If governments are forced to choose between increasing income growth in the present, and mitigating temperature rise in the future, they are going to pick the **former**. We’ll get cheap, lab-grown Kobe beef before we get a U.S. Senate willing to tax meat, and steel plants powered by “green hydrogen” before we get **anarcho-primitivism** with Chinese characteristics.∂ The question is whether we’ll get such **breakthroughs before it’s too late**.∂ Techno-optimism has its hazards, but the progress we’ve made toward decarbonization has come largely through **technological innovation**. When India canceled plans to construct 14 gigawatts of new **coal**-fired power stations in 2019, it did **not do so in deference to** international pressure or domestic **environmental movements**, but rather to the **cost-competitiveness of solar** energy. The same story holds across **Asia’s** developing **countries**: Thanks to a ninefold reduction in the cost of solar energy over the past decade, the number of new coal plants slated for construction in the region has fallen by 80 percent. Meanwhile, the road to an electric-car revolution was cleared by a collapse in the cost of lithium batteries, the challenge of powering cities with solar energy on cloudy days was eased by a 70 percent drop in the price of utility-scale batteries, and wind power grew 40 percent cheaper. Our species remains **lackluster at solidarity** and self-government, but **we’ve got a real knack for building cool shit**.∂ The technological progress of the past decade was not sufficient to compensate for tepid climate policy. But real techno-utopianism has never been tried: As of 2019, global spending on clean energy R&D totaled $22 billion a year, or 3 percent of the Pentagon’s annual budget. Increasing spending on such research — while expediting cost-reductions in existing technologies by deploying them en masse — should be twin priorities of American climate policy.∂ **The preconditions for green industrialization can be made in America**.∂ The United States has more fiscal capacity and better-financed research universities than any nation on the planet. And, for all the pathologies of our politics, public investment in green tech inspires **far weaker opposition** than many less-indispensable climate policies. In fact, late last year, with Republicans controlling the Senate and Donald Trump in the White House, the U.S. increased funding for zero-emission technology R&D by $35 billion. America does not have **sovereignty over enough humans to save the planet by slashing our domestic emissions**. But we just might have the **resources and political economy necessary to help the developing world save us all**.∂ Although progress on renewables has exceeded optimistic expectations, the technical obstacles to global decarbonization remain immense. In the most optimistic scenario, scaling up existing, cost-competitive technologies can get us about 16 percent of the emissions reductions necessary for achieving net-zero by 2050, according to the International Energy Agency. Driving down the price of tech we already have will get us another 39 percent. The rest **must come from technologies** that have yet to be fully developed. We need electrified cement, hydrogen-powered steel plants, and evaporative cooling. We need utility-scale energy storage, electric airplanes, and ultra-high voltage transmission lines. And we’d be remiss to not toss a bit of our collective wealth at game-changing hail marys like nuclear fusion.

#### 4 – System changes are infeasible---can’t get governmental or international buy-in---reform is comparatively quicker.

Ezra **Klein 8/31/21**. American journalist, political analyst, New York Times columnist, and the host of The Ezra Klein Show podcast. "Transcript: Ezra Klein Answers Listener Questions". No Publication. 8-31-2021. https://www.nytimes.com/2021/08/31/podcasts/transcript-ezra-klein-ask-me-anything.html

EZRA KLEIN: Yeah. And maybe we should do an episode on this. I have very complicated feelings about degrowth. So one is that it is tricky to talk about, as you say, because I find its advocates will continue to say that you’re defining it wrong. So let me use a definition from Hickel, which is, and I’m quoting him here, “Degrowth is a planned reduction of energy and resource throughput designed to bring the economy back into balance with the living world in a way that reduces inequality and improves human well-being.”∂ And so I’d note two things here. One is “**designed**.” Degrowth is, as its advocates understand it, a act of global economic planning really **without equal anywhere in human history**. It is an act of **extraordinary central planning**. So that’s one thing that is going to become important in my answer.∂ I’d say there’s part of this vision I’m sympathetic to, and then part of it that I just don’t think holds together. I would distinguish a critique of want and a critique of growth. And the way I would do that is that, as you hear if you listen to the show, I’m pretty critical of a lot of the ways capitalism generates desire.∂ Desire is something we build through advertising, through social mimicry. This is a show that is supported by advertising. This is part of the desire- generation complex in its business model. And we are told and taught to want a lot of things, not only that we don’t need, but that don’t make us happier. And so not all growth as measured by G.D.P. is good growth.∂ But a lot of what people want is fine, or great, or whatever. It’s their desire, and it’s not for me to tell them the jeans they’re interested in are incorrect. And a lot of it **I don’t think is under the power of policymakers to control**. I don’t think it’s all advertising. I don’t know that if you cut down advertising, the amount people would spend on consumption would go way down. They might simply consume other things.∂ And so I want people to have rich, materially fulfilling lives. And I think **it’ll be a very hard piece to change**. So in terms of having a counterweight to the materialism, the ideology of materialism in modern society, that’s a part of degrowth that I’m very open to.∂ But now let me talk about degrowth more in the terms of it is a direct political project, which is as an answer to climate change. I would cut this into a few pieces. Is degrowth necessary for addressing climate change? Is it the fastest way to address climate change? And is it desirable? It has to be at least one of those things to be the strategy you’d want to take.∂ And **I don’t think it is**. Let’s start with necessary. Many countries in Europe, even the United States, are growing while reducing their carbon footprint. Now, you could say they’re not doing so fast enough depending on the country. But they could all do so much faster if there was enough political will to deploy more renewable technology, to tax carbon, to do a bunch of things that we have not been able to pass. So it is clearly true that **we can decouple growth and energy usage**.∂ Hickel, to be fair, will say that that may be true. But given the speed at which we need to act, we can’t just be deploying renewable energy technology. It would also help the situation if we stopped using as much through material consumption. That is, I think, conceptually true and politically false.∂ I mean, let’s just state that speed is, first and foremost, a **political problem**. There is a delta between where we are right now in terms of what we are doing on climate change and where we could be. That delta is big, and that delta gets bigger every year because it gets harder every year. And the time we have to act before we start getting some of the really truly catastrophic feedback loops in play is shortening. So you’re now talking here about the **speed at which you can move politics**.∂ So for something to be **faster**, it doesn’t just need to be faster if you implemented it. It **needs to be something you can implement** such it accelerates the politics of radical climate action. And that’s where I think **degrowth completely falls apart**. And I have tried to look for the answer people give on this, and I’ve **never found one that is convincing**.∂ So again, I’ll quote Hickel on this: “Degrowth has a discriminating approach to reducing economic activity. It seeks to scale down ecologically destructive and socially less necessary production, i.e., the production of S.U.V.s, arms, beef, private transportation, advertising and planned obsolescence” — by which he means there, the fact that expiration dates are built into a lot of our electronics — “while expanding socially important sectors like health care, education, care and conviviality.”∂ And I’d urge people to think about that for a minute. I mean, you can listen to that and you will assume correctly that I am sympathetic to the idea that a lot of those goods are not great. I’m a vegan. I don’t eat beef. I would like nobody else to eat beef.∂ I think that if the political demand of the climate movement becomes you don’t get to eat beef, you will **set climate politics back so far, so fast, it would be disastrous**. **Same thing with S.U.V.s.** I don’t like S.U.V.s. I don’t drive one. But if you are telling people in rich countries that the climate movement is for them not having the cars they want to have, **you are just going to lose. You are going to lose fast**.∂ We watched this happen for years before Elon Musk and some others began inventing cars that were both electrified and were actually cool cars. You weren’t going to get everybody in a Prius. You **might,** over time, **get them into the post-Tesla generations** of electronic vehicles.∂ This is where **the politics of it** for me **fall apart**. I’d at least like to see some **empirical evidence** for the claim that degrowthers are right, and that their appeal will **speed the politics of doing hard things** on climate change. Because I think it will **do the opposite**. And I don’t see politicians winning in the countries they would need to win on anything like this platform. **Quite the contrary**.∂ I watched the most effective attack against Joe Biden’s climate policies. It **dominated** the **news** for a day or two. It was Fox News just making up — just completely making up — a false claim that Biden was going to **limit or restrict red meat**.∂ ANNIE GALVIN: Right. [LAUGHS]∂ EZRA KLEIN: So my worry with degrowth is that it is trying to take the politics out of politics. It is attacking the flaws of the current strategy as not moving fast enough when the impediments are **political**, but then **not accepting the impediments to its own political path** forward.∂ I will say, because I think it’ll be weird to people if I don’t mention this, that there is the big problem, of course, that the rising generation of emissions is coming **from China, from India**. I think it’s something like ⅔ of emissions are now from **middle income countries**. That is **only going up**.∂ Hickel and other degrowthers will say that, yes, the point of this is that the rich countries, which have already used more than their fair share of the carbon budget, should cut their carbon usage so poor countries can grow. I cannot imagine how you are going to enforce this as a political and economic planning regime. **How you will get rich countries to agree** to do less so poor countries can have more. I mean, look at what has happened with **vaccine hoarding**.∂ I don’t want to say that this isn’t a good moral weight on the conversation or, in the long term, a good push for people to think about different ways of having growth, different ways of human flourishing. But the entirety — as the degrowth people will agree — the entire question of the climate change conversation is **speed**. And I just don’t see the argument for degrowth as being anything but an **extraordinarily slower way of approaching the politics**, probably **counterproductive compared to what we’re doing**, which is I think you can make tremendous strides on climate change by deploying renewable energy **technologies** and giving people the opportunity to have a more materially fulfilling life atop those technologies.∂ And by the way, when that happens in rich countries, as we have seen, it ends up subsidizing these renewable energy technological advances for poorer countries. So it is a fact that Germany and other countries did so much to subsidize solar for themselves, it has also made it possible for countries like China and India to have such a rapid advance in solar technology that it’s affordable for them to do a lot of their growth on that platform.∂ So I also think there are cross-subsidies in rich countries trying to maintain growth renewable energy deployment that end up helping poor countries change what they’re doing in a useful way, too. So that’s my take on degrowth. But I understand its appeal. I just **don’t understand its politics**.

#### 5 – Innovation solves climate---monetary incentives align even for climate deniers---abandoning capitalism fails.

Noah **Smith 9/24/21**. Assistant Professor of finance @ SUNY Stony Brook, an economics PhD student at the University of Michigan, an academic editor in Japan, and a physics major at Stanford. “Climate optimism of the will.” https://noahpinion.substack.com/p/climate-optimism-of-the-will

So yeah, I’m not going to tell young climate activists that things are going well. The planet is in a very tough spot. But what I am going to tell young climate activists is that despite their pessimism of the intellect, they should embrace optimism of the will. Not only does despair ultimately not help anything, but it’s increasingly unwarranted — yes, things are tough right now, but recent developments mean that the climate has more of a fighting chance than it has in recent memory. And the reason is that unlike the discouraged climate activists, can-do types in science, business and government have been rolling up their sleeves and fighting the good fight.

The fightback against climate doom has begun

Activists are understandably leery of the idea that new technologies will come along to save the planet just in the nick of time. After all, the incentives are in no way aligned for such a deus ex machina — given the fundamental externality of carbon emissions, there’s no reason why scientists and engineers should care enough about the climate to spend their lives inventing stuff to fix it.

And yet, they do. Even if the public doesn’t take the climate problem seriously enough, scientists and engineers do. And they have poured their hearts and souls and careers and fortunes into creating **cheap solar, cheap wind, cheap reliable batteries**. Let me just re-post my favorite graph:

Chart, diagram, line chart

Description automatically generated

This is the result of many decades of hard work by a huge number of actors in government, academia, and business.

Of course cheap solar and wind are only one piece of the technological puzzle here. For one thing, you need to store energy for when the sun isn’t shining and the wind isn’t blowing — not just from day to night, but from summer to winter. Normal lithium-ion batteries work great for the short term and have come down in cost enormously, but they won’t cut it for the longer-term stuff. But as David Roberts explains, some new longer-term storage technologies like Form Energy’s iron-based batteries may already be **competitive** with gas plants for firming up the grid in some markets.

Meanwhile, electricity and transportation only account for a little over half of emissions. But **technology is pressing ahead on every front**! Industrial processes need heat; so we’ll use **hydrogen** to store energy from renewable sources and burn it for heat. Steel requires carbon to make, but we have an increasing array of **new technologies** to address that too. Same for cement. And as for retrofitting buildings cheaply to use electricity instead of gas, I know of some very promising developments in that area as well (more to come on that later).

The point here is that we don’t have to depend on any one magical deus ex machina technology to come and save us. There is no single such technology. Instead, **everywhere you look**, scientists and **engineers are inventing new technologies to maintain our industrial society** while eliminating greenhouse emissions. And everywhere you look, companies are **eager** to both develop and purchase these technologies, promising to bring them down in cost the way solar and batteries have fallen in cost.

And a new report from the Institute for New Economic thinking suggests that this flurry of technological innovation has already changed the game in a fundamental way. In “Empirically grounded technology forecasts and the energy transition”, INET’s team notes that **we’ve consistently underestimated progress in renewable technology**. They argue that realistic forecasts mean that green energy will be so cheap that even businesses that don’t care about climate at all will now find it worth their while to **ditch fossil fuels**:

Here we take a new approach based on probabilistic cost forecasting methods that made reliable predictions when they were empirically tested on more than 50 technologies. We use these methods to estimate future energy system costs and find that, compared to continuing with a fossil-fuel-based system, a rapid green energy transition will likely result in overall net savings of many trillions of dollars - even without accounting for climate damages or co-benefits of climate policy. We show that if solar photovoltaics, wind, batteries and hydrogen electrolyzers continue to follow their current exponentially increasing deployment trends for another decade, **we achieve a near-net-zero emissions energy system within twenty-five years**. In contrast, a slower transition…is far more expensive. If non-energy sources of carbon emissions such as agriculture are brought under control, our analysis indicates that a rapid green energy transition would likely generate considerable economic savings while also meeting the 1.5 degrees Paris Agreement target. (emphasis mine).

Cheap renewable energy means that we **don’t have to convince everyone** in the world **to sacrifice** for the climate. **Every selfish businessperson** out there trying to make a buck now **has an incentive to switch** from coal to solar, just because it’s cheaper. (Note that **this completely blows degrowth arguments out of the water**, at least as regards climate change.)

And you can already see this start to materialize. The governments of **India and China** have been pushing back against emissions targets for years, arguing that their economies need to use fossil fuels in order to eliminate poverty. But thanks to the valiant efforts of the people pushing renewable technologies forward, these countries are now starting to **decarbonize out of pure self-interest**. India has been canceling coal plants left and right. China just announced that it’s canceling the financing of all new coal plants overseas, suggesting that Xi Jinping might have the political clout to take on the entrenched, hugely powerful coal industry. This would never have happened if technological innovation hadn’t made decarbonization an attractive economic prospect in its own right.

**Even** America’s **Republicans may be starting to come around**; despite controlling the Presidency and the Senate, they put significant climate provisions in the December Covid relief bill.

In other words, though we haven’t managed to convince the general public to make deep material sacrifices to fight climate change, we have managed to convince several key segments of society to join the fight in a highly effective manner. **The effort to invent green technologies has been broad, consistent, sustained, and vigorous**. And it’s pretty clear at this point — in a way that it wasn’t clear a decade ago — that **the effort is going to be successful**. That is what “optimism of the will” gets us; that is what it means to fight ourselves out of a tough situation.

The energy of optimism

This does not mean that the fight is won, and that we can kick back and watch technology stop climate change for us. As the INET report indicates, even optimistic technological scenarios still require strong government action on non-energy sources of emissions such as agriculture and land use. Moreover, technology might make decarbonization cheap, but the fossil fuel lobby is still incredibly powerful, especially in the United States — coal is dead, but oil and gas support tons of jobs and have the ear of the GOP and some Democrats as well. Innovation has opened the door to an emissions-free future, but activism will be needed to push us through that door.

That’s where optimism comes in. Activists need to realize that even though projections have worsened and the 1.5C target will probably be missed, technology has flipped what would otherwise be a truly hopeless situation into a very winnable battle. 10 years ago it looked like in order to stop climate change, activists would have to convince the world to make huge material sacrifices. But now, **there’s no need to embrace degrowth**, or demand that people live ascetic lives, **or abolish capitalism**, or any of that stuff. Economic logic is on the activists’ side now. All that’s needed is to overcome the entrenched political power of the lobbies of sunset industries, and their culture warrior allies. Those are powerful enemies, but they’re **fundamentally beatable** ones.

Climate activists will thus benefit from both a change in attitude and a change in tone. Optimism of the will — the determination to fight our way out of the hole we’ve dug for ourselves — is a reason to get up in the morning. And it also makes for a damn good message. Instead of histrionics, or increasingly shrill and despairing portents of doom, or insistence that **capitalism must end** NOW NOW NOW OR THE PLANET DIES — all of **which alienate more people** than they convert — climate activists can deliver a positive, optimistic, can-do message. Climate change is beatable. We can even **make money while beating it**! **Human ingenuity and will can triumph** over the brute elemental forces that would destroy us. Must triumph, in fact.