## 1

#### We’re going to ! turn the aff get ready – capitalism is good and sustainable

#### [1] Sustainability: Capitalist growth is good for the environment, sustainable, and resolves inequality – This is probably the best sustainability card you will hear

Harry Saunders 16, Managing Director, Decision Processes Incorporated, “Does Capitalism Require Endless Growth?” Summer, https://thebreakthrough.org/index.php/journal/issue-6/does-capitalism-require-endless-growth

The modern notion that capitalism harbors the seeds of its own ecological destruction owes its provenance to a most unlikely duo of canonical economic thinkers. The Reverend Thomas Malthus claimed in the eighteenth century that a collision between the growing number of mouths to feed and the capacity to add productive agricultural land was inevitable. Karl Marx argued in the nineteenth century that technological change would bring with it falling wages, declining profits, and hence, ultimately, the collapse of capital formation. The argument of Malthus was famously resurrected in the early 1970s in the Club of Rome report The Limits to Growth.1 Around the same time, ecological economists Nicholas Georgescu-Rosen, Herman Daly, Robert Costanza, Robert Ayres, and others advanced the idea that all human economic activity fundamentally relies on a limited planetary endowment of what they call “natural capital.” On the other side, Marxist scholars like Paul Sweezy2, Fred Magdoff, and John Foster3 have extended Marx’s insight, directing our attention to what they call the “growth imperative of capitalism,” by which they mean the indispensable necessity of capitalism to continually accumulate capital and generate a reserve of unemployed workers if it is to remain viable. Without continual economic growth, they argue, capitalism will collapse. Or, as Giorgos Kallis recently so succinctly put it, “Growth is what capitalism needs, knows, and does.”4 Taken together, the dilemma is evident: An economic system that requires perpetual economic growth on a spherical planet with finite resources simply cannot last. Merging Marx and Malthus in this way has made Malthusian arguments accessible to elements of the global left that had historically rejected them. Capitalism and environmental sustainability simply could not be reconciled. Constraining the economy to keep it within a safe margin of ecological limits would only hasten capitalism’s collapse, while allowing capitalism to grow unconstrained would result in ecological collapse. Either way, the choice was clear: abandon capitalism or risk the end of the human project. But Marx and Malthus are not so easily reconciled. Marx’s central insight was that capitalism would collapse of its own contradictions, including rising inequality and immiseration of labor that would ultimately destroy the market for the goods that capitalists produced. As it turns out, the mechanism by which this would occur, technological change driving greater economic productivity, was precisely the mechanism that Malthus failed to anticipate when he predicted that food production would fail to keep up with population growth. In Marx’s crisis lay precisely the mechanism that would prevent Malthus’ prophecy. We see much evidence for this today. Improving technologies have driven a major expansion in food availability, along with continuing production efficiencies across the global economy more generally. The world faces no shortage of ecological challenges — species extinctions, collapsing fisheries, depleted aquifers, poisoned land, and, of course, the inexorable rise of global temperatures as atmospheric concentrations of greenhouse gases increase. And economists today concern themselves with the threat of “secular stagnation,” chronically low growth rates that threaten long-term prosperity. But it is important to distinguish these challenges from the sweeping claims made originally by Sweezy, Magdoff, and Foster and repeated today by prominent intellectuals and activists such as Naomi Klein and Bill McKibben. In the pages that follow, I will demonstrate that both neoclassical growth theory and empirical evidence suggest that capitalist economies do not require endless growth but are rather much more likely to evolve toward a steady state once consumption demands of the global population have been satisfied. Those demands demonstrably saturate once economies achieve a certain level of affluence. For these reasons, a capitalist economy is as likely as any other to see stable and declining demands on natural resources and ecological services. Indeed, with the right policies and institutions, capitalist economies are more likely to achieve high living standards and low environmental impacts than just about any other economic system. 1.From the window of his Manchester home in the mid-1840s, Marx’s colleague and contemporary Friedrich Engels looked out on a horrifying microcosm of what was happening in England and throughout the newly industrializing world — a stark imbalance between the luxurious wealth of capital owners and the miserable poverty of the workers they employed. Marx himself had witnessed firsthand this same imbalance, and over several decades of intense study came to propose that a core flaw of capitalism resides in excessive claims placed by privately owned capital as against labor on the economic value created by their combination. Herein lay the fundamental contradiction, in Marx’s view, which would bring an end to capitalism. As capitalists invested in ever-newer technologies, Marx predicted that their dependence on labor would decline. As this occurred, returns to labor in the form of earned wages would decline. If there were no return to households for their labor, there would be no income with which to consume goods produced by capital owners, nor savings that households might reinvest in new capital. An economic system in which declining returns to labor due to technological change immiserated most households was a system in which the market for goods sold by capital owners could not long survive.Notably, Marx did not dispute the necessity of capital for producing what households need, only who in society need control this resource. The problem, as Marx saw it, was that the surplus value created by labor was being unfairly conscripted by capital owners. In the first decades of the twenty-first century, a number of prominent analyses have suggested that Marx’s prophecy is perhaps coming true. MIT economists Erik Brynjolfsson and Andrew McAfee5 in recent years have suggested that continuing automation and rising labor productivity threaten mass unemployment, a problem foreseen by Keynes in 1930.6 Thomas Piketty, in his much-lauded book Capital in the Twenty-first Century7, finds that returns to capital have exceeded real economic growth in the industrialized world in recent decades, attributing that shift to ever-increasing concentration of limited capital in the hands of the few. The economist Robert Gordon8,9 finds that growth rates slow dramatically as societies become wealthier. The growth associated with the enormous rise in economic productivity and output associated with the transition from agrarian to industrial societies cannot be sustained as societies shift from industrial to post-industrial economies. Meanwhile, Paul Mason and others in the “post capitalism" movement contend that “an economy based on the full utilization of information cannot tolerate the free market.”10 His argument is that capitalist corporations will not prove capable of capturing value from the technology they deliver, value adequate to sustain them over time. Before considering whether these various challenges to advanced capitalist economies portend their collapse, it is important to note what none of these analyses suggest, which is that capitalism’s unquenchable demand for growth has run up against fundamental biophysical limits. If anything, these analyses suggest the opposite: that the limits to continuing growth in capitalist economies are social or technological, not biophysical. Brynjolfsson and McAfee, and Piketty, through technically different mechanisms, ultimately raise concerns that center around the immiseration of labor. Whether due to technological change, growing returns to capital, or both, all three centrally focus on declining wages and employment as the central challenge that threatens robust and equitable growth in capitalist economies. Mason, conversely, projects that technological change threatens returns to capital. The commodification of everything — material goods, knowledge, and information — ultimately brings with it an end to profits and hence both capital accumulation and capital reinvestment.11 Gordon, meanwhile, observes that there is simply no further techno-economic revolution that can replicate the one-time boost in economic productivity that comes with the shift from agrarian to industrial economies.12 If there is a common theme in these challenges to capitalist economies it is that all find their way, to one degree or another, back to Marx, not Malthus. The long-term challenge for capitalist economies, these analyses suggest, is too little growth, not too much. 2. The headwinds facing advanced industrial economies — stagnant growth and rising inequality — tell us something about the prospects for low- or zero-growth capitalist economies. Gordon’s analysis suggests that industrialized economies in relatively short order achieve a “satisficing” level of household consumption. Once that level is achieved, and once societies have built out the basic infrastructure of modernity — cities, roads, electrical grids, water and sewage systems, and the like — the growth rates characterized by the early stages of industrialization cannot be sustained by the knowledge and service sectors that increasingly dominate post-industrial societies. World Bank data clearly show this. Economic growth rates decline as countries become richer. Growth in GDP per capita in OECD countries slowed from an average of about 3 percent per year in the period 1961–1985 to about half of that in the period 1986–2014.13 Gordon’s analysis is supported not only by the long-term slowing of growth in industrialized economies but also by saturating household consumption in those economies. According to the World Bank, OECD growth in real household consumption per capita (consumption of both goods and services) has shown steady decline each decade from around 3 percent per year in the 1970s to around 1 percent per year since 2000.14 Brynjolfsson and McAfee, and Piketty, suggest that declining returns to households from their labor will drive worsening inequality and stagnant or declining wages. But that does not imply a declining material standard of living. The same technology gains and capital mobility that have eroded the power of labor in developed world labor markets have also persistently reduced the real prices of goods and services, making them ever more affordable.Even as nominal wage growth has slowed or stagnated in the US and other advanced developed economies, households are able to buy more with less of their incomes. This is because the cost of goods and services has grown even more anemically, inflation nearly disappearing in these countries over the same time period, meaning wages have grown in real terms. OECD data show that real wages OECD-wide have grown by about 1 percent per year between 2000 and 2014, including real growth in the United States, the United Kingdom, France, and Germany.15 Growth in the Scandinavian economies (Norway, Denmark, Sweden, and Finland) has exceeded this.16 This is true even at the bottom of the income distribution. Virtually all low-income homes in the United States today boast a refrigerator, modern heating and cooling, and electricity. Large majorities have dishwashers, washers and dryers, computers, cable television, and large-screen displays. Consumer goods and services once considered luxuries in the United States and other developed countries are today widely available and utilized by all citizens. That is mostly because home appliances and other goods today cost a small fraction, measured in the work time necessary to purchase them, of what they did thirty years ago.17,18 Of course, rising economic inequality raises a range of concerns beyond those related to access to goods and services. Higher rates of inequality may threaten social mobility, social cohesion, and perhaps even democratic governance. Even so, inequality appears to decline as nations industrialize and become wealthier. In rich Scandinavian countries (Sweden, Denmark), inequality has essentially halved since World War II.19 Declines recently are less impressive in the United States, United Kingdom, and other parts of Europe20, but, nonetheless, inequality remains reliably lower than in most developing economies21, where aggressive but still insufficient capital formation in the presence of large labor forces tends to result in higher levels of inequality. Moreover, increased capital mobility has driven declining inequality between countries, even as it may be worsening inequality within them. Thanks to global trade and international supply chains, firms have become increasingly able to locate production facilities in the developing world, where labor with the requisite skills can be employed at lower wages. As might be expected, labor in industrialized countries is not happy with this turn of events. But the result has been a long-term convergence of wages between producing and consuming countries, declining inequality globally, and a dramatic decline in absolute levels of poverty. The ILO reports that between 2000 and 2011, real average wages approximately doubled in Asia.22 In Latin America, the Caribbean, and Africa they also rose substantially, well above the developed world average23, while in developed economies they increased by only about 5 percent, far below the world average24, leading to what leading ILO observer Patrick Belser has dubbed “the great convergence”25 — a dynamic that was incidentally predicted many decades ago on theoretical grounds by famed economist Paul Samuelson.26 Meanwhile, according to the World Bank, the global share of people living on less than $1.90 per day (the World Bank definition of extreme poverty) fell from 44 percent in 1981 to 13 percent in 2012.27 Taken together, then, the dynamics transforming the global economy, while not without challenges, paint an interesting picture of slowing growth, converging global incomes, falling cost, and saturating demand for goods and services. Should these dynamics hold, it is not hard to imagine a future in which the global economy gravitates toward a prosperous and equitable zero-growth economy placing relatively modest demands on the biocapacity of the planet. But getting from here to there will require a number of further conditions.

#### [2] War: Multilateral economic ties forged through capitalism are key to interdependence which sets a cap on conflict – Robust models prove

Jackson and Nei 15 – Matthew O. Jackson, William D. Eberle Professor of Economics at Stanford, and PhD in economics from Stanford Graduate School of Business, Stephen Nei, Economics PhD candidate at Stanford University (“Networks of military alliances, wars, and international trade,” *Proceedings of the National Academies of Science of the United States*, December 15th, 112(50), pp. 15277–15284, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4687585/)

We provided a model of networks of military alliances and the interactions of those with international trade. We showed that regardless of military technologies and asymmetries among countries, nonempty stable networks fail to exist unless trade considerations are substantial. Moreover, the network perspective gives us an understanding of how trade might prevent conflict, by discouraging countries from turning against their allies and encouraging countries to defend their trade partners. Although this points to trade as a necessary condition for stability, whether it is sufficient for stability depends on size of the costs and benefits of war. In closing, we comment on several other features of international relations that are part of the larger picture of interstate war. A notable change in alliances during the Cold-War period was from a “multipolar” to a “bipolar” structure, something which has been extensively discussed in the Cold-War literature (e.g., see ref. 12 for references). Although this lasted for part of the postwar period, and was characterized by a stalemate between the Eastern and Western blocs, such a system of two competing cliques of alliances is only war-stable if there are sufficient trade benefits between members of a clique, as shown in our second theorem. Moreover, it is more of a historical observation than a theory, and it does not account at all for the continued peace that has ensued over the last several decades. Thus, this fits well within the scope of the model and does not account for the overall trend in peace. Another institutional observation regarding the post-WWII calm is that institutions have allowed for coordination of countries onto a peaceful “collective security” equilibrium where any country disrupting international peace is punished by all other countries, so that war against one is war against all. However, as shown by ref. 34, this equilibrium is in some sense “weak”: It relies heavily upon the assurance that a country tempted to join an attacking coalition will refuse and that all countries will follow through on their punishment commitments, so that far-sighted expectations of off-equilibrium behavior are correct. Given that various small conflicts since WWII did not precipitate a global response, such doubts of some countries’ commitment to follow through on punishments seem reasonable.§§§§ Although collective security does not seem to explain the lasting peace, it nonetheless does suggest an interesting avenue for extension of our model: taking a repeated games approach to networked conflict and trade. One more relevant observation regarding changes in patterns of conflict is the so-called democratic peace: Democracies rarely go to war with each other. This coupled with a large growth of democracies might be thought to explain the increase in peace. However, once one brings trade back into the picture, it seems that much of the democratic peace may be due to the fact that well-established democracies tend to be better-developed and trade more. Indeed, studies (38, 39) indicate that poor democracies are actually significantly more likely to fight each other than other countries, and that paired democracy is only significantly correlated with peace when the countries involved have high levels of economic development, which is consistent with trade’s playing the major role rather than the government structure. Our model abstracts from political considerations, which still could be significant, and so this suggests another avenue for further extension.

#### [3] Space colonization: Capitalism is key to drive private investment and research

Spring 16 (Todd, 6/3/16, The Policy, “A Case for Capitalism, In Regards to Space Travel,” https://thepolicy.us/a-case-for-capitalism-in-regards-to-space-travel-d77e50f8116e#.q49v6pqm2, 9/7/16, SM)

As of now, N.A.S.A. does not plan on sending a ~~manned~~ mission to Mars until the 2030s — assuming, of course, they get the government funding they need to undertake such a massive project. Considering the recent cuts to deep space exploration, down nearly $300 million from 2016, I am not certain what the condition of the program will look like in another two years…much less the gap between now and the 2030s. Where, then — if the government and its agencies will not provide us with the money for exploration — will we turn to slake our thirst for cosmic space travel? SpaceX. Private corporations. Capitalism. Seeing this article in the news, reading day after day the story of budget cuts to N.A.S.A. in regards to deep-space exploration and other related programs, got me thinking about just how important it will be for private companies and corporations to undertake these projects…such as Elon Musk’s SpaceX, and countless others (read the full list here). The problem is that we have gotten it into our heads that Capitalism is the root cause of our economic woes in the United States, perhaps failing to understand that such policies are something like a double-edged sword: they could also be our salvation. This article provides a great list of the pro’s and con’s of Capitalism. I would recommend you take the short passing of time it requires to read it through-and-through before continuing. Now then. I have never been for fully-unhindered Capitalism. I do not believe that the government should stay out of economic affairs entirely, for as provided in the article many of the con’s relate to improper regulation (monopolization) as opposed to something fundamentally wrong, but I do not believe that any government should be going about shoving their claws into every economic affair either. There must be a healthy balance, especially if Capitalism is to work as it is supposed to work. The same goes for any policy. The government should be there to bolster competition between businesses…not favor one or bail-out the other. The more regulation, the more interference or amendment, the less it works…but this mix of regulation and free market must fall in the “goldilocks zone” if the citizens of said society are to reap its full benefit. If not, like planets about a star, the society shall either burn or freeze. One of those benefits is highlighted by Elon Musk’s SpaceX: the intervention of privately-funded companies to do things that a traditional government agency cannot. Namely, the exploration and eventual colonization of Mars in a reasonable, step-by-step timeframe…unlike the “we will get to it eventually” mindset plaguing the bowels of the United States government. Were not the policies in place to foster the growth of private companies, our best chance at getting people out of Earth-orbit — the Bush-approved, now-cancelled, insanely-expensive Constellation program — would have gone the way of promises and well-wishes. It is my hope that Elon Musk and space entrepreneurs like him are not simply blowing steam, and that one day — perhaps even within my lifetime — I could be on my way to a space hotel on the Moon, flying aboard a space airliner with the name of a private company plastered across the side. Regardless, if we humans are to truly become a multi-planet species we must not hinder economic growth with narrow thoughts. We must not become confused that the “problems down here” and the “problem of getting out there” must be in conflict; they do not need to, and we must not suppose they should. They are two separate issues with two unique sets of problems, and thus this policy of taking resources from one to give to the other will only ensure that neither issue is given that which it needs, or enough to fix what must be solved. Therefore I propose that we support these pioneers of space travel in any way that we are able. Let us not forget that solving the issue of “how do we get there” might just lead to the end of our “problems down here”.

#### Space privatization is good—it prevents war and ensures sustainably-sourced space projects for public good.

Frankowski 17 [(Paweł, assistant Professor at the Chair of International Relations and Foreign Policy, Institute of Political Science and International Relations, Jagiellonian University) “Outer Space and Private Companies: Consequences for Global Security,” 2017, pg. 144-145] TDI

In the terms of privatization and space security, space remains relatively untapped, but commercial and military benefits from space exploration/exploitation could even lead to ‘privatization of space’. Such privatization will result from growing pressure on spacefaring countries to defect from cooperation, since is less viable with good number of multiple actors who entered the space.36 However, space policy and space research are characterized by very high costs, which are rather impossible to bear by private companies, limited by economic calculation. As pointed out earlier, under-investment in technological development by private companies it is related to the fact that these actors are not focused on profits of a social nature, such as improving the quality of life of the recipient of the product.37 This makes some technology, potentially beneficial to society, not developed or introduced into use, because the profit margin is too small to make this viable for commercial players.

To conclude, privatization of space security can develop in unexpected way, but in today’s space environment private actors would rather play the role of security regulators than security providers. When investment in space technologies is less profitable than other areas of economy, private actors would focus on soft law and conflict prevention in space, and new private initiatives will appear. For example, apart from important space companies, as SpaceX or Blue Origin active in outer space, other private actors as Secure World Foundation (SWF), who focus on space sustainability, will play more important role in crafting international guidelines for space activities.38 This path the way for future solutions and projects, as cleaning the space debris, extracting resources from asteroids and planetoids, refuelling satellites, providing payload capabili-ties for governmental entities on market-based logic, will be based on activity non-state actors, providing soft law and regulatory solutions, where space faring states are unable to find any compromise. Therefore private companies will be in fact global (or space) regulators, as part of UNCOPUS, being involved in space activities.39

The last argument for private involvement in space security comes from an approach based on common good and resilience of space assets, emphasized by the Project Ploughshares, as an important part of space security. As of 2017 there are more than 700,000 man-made objects on the Earth’s orbit bigger than 1 cm, while 17,000 of them are bigger than 10 cm.40 Some of them are traced by SSA systems, both American and European, but these systems are public-military owned, and private operators are not granted any access to this data. Any collision of space object with space debris, even with small particles, might result in a chain reaction, called Kessler’s syndrome, and not only private but public, and military assets will be destroyed or impaired. In such conditions, a reluctant cooperation between the public and private sector, and unwillingness to share vulnerable data by public actors seem to confirm that private space activity is more than necessary. This is an apparent case when logic of mistrust between state powers must be overcome by private actors, perhaps by suggesting common preferences for debris mitigation, and space situational awareness. In the case of space debris, Space Data Association, an initiative supported by private sector, with its main aim to enhance data sharing between commercial satellite operators, could be an example of nascent public good provided by private actors for the sake of global security.

#### It also solves military readiness.

Frankowski 17 [(Paweł, assistant Professor at the Chair of International Relations and Foreign Policy, Institute of Political Science and International Relations, Jagiellonian University) “Outer Space and Private Companies: Consequences for Global Security,” 2017, pg. 133-134] TDI

Literature on privatization of military services has expanded, especially after 2002 and involvement of private companies in Iraqi operation. When appreciating an outlook of different scholars dealing with private military companies it is worth to follow Prado7 and argue that transferring provisions of services to private hands or acquiring from private entities without developing independent system on state’s behalf can be beneficial for the state for at least four reasons. First reason is price, and cost of private provisions could be lower because private companies can provide services with fewer people, with outsourced services, also to third countries. Price of military service, to far extent depends on costs of trained personnel, when private companies hire former soldiers, with completed training before. Moreover, the cost of public security services is based on the benefits coming to soldiers after their years of service. For example for overall military budget of the United States (1 trillion USD), more than 200 billion USD, has been spent for pensioners, veterans’ benefits or retiree health services.

Secondly, the push for private security may result in more efficient usage of financial and human resources, and soldiers may perform more valuable duties.8 Therefore, PMCs can provide better service for the same price or the same services lowering the price. This will allow moving financial resources to another public service or arguing that public money has been better spent. Thirdly, with private security providers, states can avoid lengthy red tape procedures, with for example standardization of military procurements, time for mobilization and deployment. While such problems are important during armed conflict, they have also become more and more important during the planning of infrastructure, using assets, and regulating activity. The demand for more flexible and less troublesome activity in security realm is constantly increasing, both in Europe and in the Western Hemisphere.

Finally, governments may turn for private resources for the lack of choice, when the state does not have necessary technical or material capabilities to provide security services in a timely fashion.9 However, some authors suggest that looking for private solutions in security cannot be analysed in isolation from pressure coming from political processes in larger scale.10 Nevertheless, distinguishing between economic power of private actors, and lack of capacity on behalf of the state, as driving factors for privatization of security services not necessarily answers the question why space assets, crucial for power of any important state in the world politics, are developed by private actors, being to some extent neglected by governments.

#### They can’t win any offense – Getting off the rock solves every single extinction threat

Smith and Davies 2012 (Cameron M., Anthropology Professor, Evan T., Writer; "A Choice of Catastrophes: Common Arguments for Space Colonization", Emigrating Beyond Earth: Human Adaptation and Space Colonization, http://link.springer.com/chapter/10.1007/978-1-4614-1165-9\_4)

These limits are not entirely mythological. Even if humanity were to end war,¶ overpopulation, disease and pollution, ensure global justice and build a network¶ of defenses against such cosmic dangers as solar eruptions and wandering comets¶ and asteroids, the Sun cannot be prevented burning out, at which time its plasma¶ shell will expand and incinerate the Earth and all human works. The Sun's¶ expansion is not expected to occur for another five billion years, and may be¶ thought of in a somewhat mythical way. But there are certainly serious and¶ immediate threats to the human species that, we argue, make a compelling case¶ for beginning the migration from Earth sooner rather than later.¶ We are not the first to point these out, of course; in his 1979 book A Choice of¶ Catllstrophes3 Isaac Asimov discussed a variety of plausible natural and culturally caused¶ events that could cause the extinction of humanity, or at least collapse¶ global civilization. While humanity has taken action on some of these threats -¶ for example, an international effort now scans the sky for 'civilization-killer'¶ comets and asteroids4 - many of Asimov's proposed calamities could still occur¶ today. Unfortunately, some are more likely today than in the past, such as the¶ use of nuclear, chemical or biological weapons by individuals or small¶ organizations, and the already-apparent effects of global over-consumption of¶ natural resources, which defense organizations worldwide already recognize as¶ likely leading to resource wars in the relatively short term.¶ Asimov made many of these points nearly 40 years ago, but more recent¶ surveys of the possibility of relatively near-term human catastrophe have been¶ published, and they are not encouraging. A context for these projections has¶ been forwarded by philosopher Robert Heilbroner, who has argued in the book¶ Visions of the Future that from the time of early humans to the 17th century AD,¶ most of humanity saw its future as essentially changeless in its material and¶ economic conditions, a position that paints with quite a broad brush. Perhaps¶ more perceptively, he also argues that from the 18th century AD to the mid-¶ 1900s, Western civilization (at least) saw its future as essentially bright and¶ positive, to be achieved through the application of science, whereas since the¶ mid-1900s (significantly, after two World Wars and the invention of nuclear¶ weapons) there has been a more varied conception involving negatives resulting¶ from "impersonal, disruptive, hazardous and foreboding" factors,' though¶ including some positive hope.¶ Technology figures large in these conceptions, and it is clear that science and¶ the technologies that derive from it can yield great opportunities as well as¶ terrible risks. These were important issues to Asimov, and are more important¶ today. A recent review by Oxford University philosopher and futurist Nick¶ Bostrom points out that three recent discussions of the near human future by¶ prominent thinkers have highlighted significant threats to human existence within the next 1-5 centuries; John Leslie gives humanity a 30% chance of¶ becoming extinct in the next five centuries, Astronomer Royal Martin Rees has¶ weighed in with a figure of a 50% chance of extinction within the next 90 years,¶ and Bostrom himself giving humanity a greater than 25% chance of extinction¶ in the next century. Of course, these are speculations, but they are informed¶ speculations and they reflect technological and other realities that could not¶ have informed earlier, mythical doomsday concepts we discussed above.¶ 6¶ Natural threats to humanity include impacts on Earth from extraterrestrial¶ objects such as asteroids and comets. Human-caused threats to humanity, or at¶ least civilization (defined and discussed in Chapter 2), include ecological¶ overexploitation and conflicts using nuclear, biological and/or chemical¶ weapons. The magnitude of threats to humanity range widely (e.g. from¶ extinction to substantial reduction of the species population); we focus on the¶ levels of (a) the extinction of Homo sapiens sapiens or (b) the collapse of modem¶ civilization.¶ Extinction¶ Extinct species are those whose members have all died out; they may be known¶ to humanity in the fossil and/or DNA record of ancient life forms, but are no¶ longer living at present. Humanity has only been scientifically aware of the 4.5-¶ billion-year age of the Earth for about 100 years, and for much of humanity's¶ more recent history we have considered Earth to be a relatively safe and benign¶ home, at least between cyclic catastrophes. But palaeoenvironmental and fossil¶ records show that calamities and extinctions have been common through time.¶ In a comprehensive survey of the paleontological record paleontologist David¶ Raup has documented that over 99% of all species that have ever lived on Earth¶ have become extinct, and that most species (e.g. sapiens) have a duration of¶ about four million years, while most genera (e.g. Homo) have a duration of about¶ 20 million years. 7 While these are fascinating figures, we must recall that, as we¶ will see through this book, such figures apply to life forms that do not know they¶ are evolving in the first place, and can therefore do nothing proactively about¶ significant threats to their selective environments- their habitats. Humanity, as¶ we saw in Chapters 2 and 3, however, is unique in its ability to both perceive¶ such changes and, if time allows, adapt to them. We return to this important¶ point at the end of this chapter.¶ Extinction normally takes place over multiple generations; millions of¶ generations for faster-reproducing species, thousands for slower-reproducing¶ species. It often results from changes in selective environments that are too rapid¶ for a given species to adapt biologically. For example, when a comet (or asteroid) struck the Earth around 65 million years ago , selective environments changed¶ due to the cloud of debris that was spewed into the atmosphere; the cloud¶ blocked sunlight, which caused changes in temperature, vegetation regimes and¶ so on. This was a change of selective environment so rapid that dinosaurs were¶ unable to adapt with the biological evolution of novel traits suitable to their new¶ selective pressures. Species can also become extinct if they are out-competed by¶ other life forms that are more proficient at life in a given selective environment,¶ as when North American mammals migrated south and replaced many South¶ American marsupials, starting around 3 million years ago.¶ The history of life on Earth includes several well-documented mass-extinction¶ events in which large percentages of Earth life - or some segment of Earth life -¶ became extinct. These events are so distinctive in the fossil record that the¶ disappearance of an established life form and the appearance of new one in the¶ paleontological record are often used to define the beginnings and ends of the¶ geological periods. Such events could occur again and it is clear that most¶ would either cause human extinction at least the collapse of modern¶ civilization.¶ Some mass extinctions occurred over millions of years due to gradual¶ changes in the environment, and some - as in the well-known comet or¶ asteroid impact that ended the reign of the dinosaurs - occurred, from the¶ perspective of life form adaptation, instantly. In each case, full recovery of the¶ Earth's biodiversity took tens of millions of years. We will examine some such¶ extinction events after considering another possible scenario: not extinction,¶ but civilization collapse. ¶

#### [4] Environment: Capitalism fosters growth and trade that reduce CO2 emissions – It also facilitates the transition to renewables – We cite the most conclusive studies

Ozturk et al 15 – Ilhan Ozturk, senior lecturer in the Faculty of Business and Economics at Cag University, Slim Ben Youssef, Manouba University, ESC de Tunis, Mehdi Ben Jebli, Amen Bank, Kef Agency, Tunisia, 2015 (“Testing environmental Kuznets curve hypothesis: The role of renewable and non-renewable energy consumption and trade in OECD countries,” *Ecological Indicators*, September 2nd, Available To Subscribing Institutions Through Science Direct)

For both models we show that increasing renewable energy consumption reduces CO2 emissions in the long-run. Thus, encouraging renewable energy use by granting research and development (R&D) programs, reinforcing regulatory framework, etc. is a good policy for OECD countries to combat global warming. This result is consistent with that of Ben Jebli and Ben Youssef (2015a) for the export model. However, our result is not similar to that of Apergis et al. (2010) as they show that more renewable energy consumption increases CO2 emissions for the panel of 19 developed and developing countries they consider. We show that increasing exports or imports reduces CO2 emissions. This result could be explained by the fact that most countries of our considered panel are developed countries. Since trade has a positive effect on per capita GDP and knowing that the inverted U-shaped EKC hypothesis is verified for this panel of OECD countries, the increase in per capita trade leads to a reduction in per capita CO2 emissions in the long-run. This result is similar to that of Shahbaz et al. (2014) who show that the EKC hypothesis is verified in UAE and that increasing exports in UAE reduces CO2 emissions in the long-run. This result is contrary to that found by Ben Jebli and Ben Youssef (2015a) as they show that increasing trade increases CO2 emissions. Their result is due to the fact that the inverted U-shaped EKC hypothesis is not verified in Tunisia considered as a developing country. In addition, our result differs from that of Halicioglu (2009) showing that increasing the trade openness ratio in turkey increases per capita CO2 emissions in the long-run, whereas the EKC hypothesis is verified analytically but not graphically. It is evident from these empirical studies that when the EKC hypothesis is verified, there is a great chance that trade has a beneficial and reducing impact on CO2 emissions. 4. Conclusion and policy implications In this paper, we use panel cointegration techniques to investigate the short and long-run causal nexus between per capita carbon dioxide emissions, economic growth, renewable and non-renewable energy consumption and trade (exports or imports) for a panel of 25 OECD countries over the period 1980–2010. We also try to test the validity of the inverted U-shaped EKC hypothesis for this panel of countries. Our short-run Granger causality tests show the existence of a unidirectional causality running from trade to CO2 emissions, a unidirectional causality running from exports to renewable energy consumption, bidirectional causality between imports and renewable energy consumption, and bidirectional causality between renewable and non-renewable energy consumption. This last causality is indicative of short-run substitutability between the two energy sources. In the long-run however, there is evidence of bidirectional causal relationships between per capita CO2 emissions, real GDP, renewable and non-renewable energy consumption, real exports (or imports). The FMOLS and DOLS long-run estimates support the inverted U-shaped EKC hypothesis between per capita CO2 emissions and GDP. This result is not surprising as most of the considered countries in our panel are developed countries. As expected, increasing non-renewable energy consumption increases CO2 emissions in the long-run. However, increasing renewable energy consumption reduces CO2 emissions in the long-run. Therefore, and because of the substitutability between non-renewable and renewable energy, increasing the consumption of renewable energy leads to a reduction in CO2 emissions and may reduce the dependency of these OECD countries on fossil energy. Long-run estimates show also that increasing trade reduces CO2 emissions. Thus, increasing international commercial exchanges, which has been shown to be increasing economic growth in most empirical studies, is actually helping in combating global warming for this panel of OECD countries.

#### Regulated innovation solves climate.

Cohen 21 [(Steve, is the Senior Vice Dean of Columbia’s School of Professional Studies and a Professor in the Practice of Public Affairs at Columbia University’s School of International and Public Affairs)"Kerry Was Correct: Decarbonization Will Require New Technology," 5-24-2021, https://news.climate.columbia.edu/2021/05/24/kerry-was-correct-decarbonization-will-require-new-technology/] TDI

It’s useful sometimes to ground analysis in fact. One environmental fact is that overall, the air and water in the United States are cleaner today than they were in 1970. America consumes more today and pollutes less than it did 50 years ago. How did that happen? In the case of air, regulation of motor vehicles and power plants resulted in new stack scrubbing technology, fuel switching and the mass adoption of the catalytic converter. Due to fuel milage standards, cars became lighter, more energy-efficient and cleaner. Power generation and vehicles (not heavy industry) have always been the largest sources of air pollution, and we use more cars and electricity today than we used 50 years ago. Technological innovation coupled with strong regulation resulted in improved air quality. We see similar results with sewage treatment and with the management of non-point sources of water pollution.

The technology of air, water and waste management has advanced dramatically since we created the EPA back in 1970. I believe that decarbonization is in the early stages of the same process. The technology we have now can get us started, but if it was really where it needed to be, it would already be in use. Electric cars are a good example. Yes, we need more charging stations and public policy should do even more to encourage early adoption. But what we really need is a battery so good that it can deliver a charge for 500 or 1,000 miles. We need an electric vehicle that costs less than today’s internal combustion vehicles. Those electric vehicles will require technological innovation that I am certain we will see but is not yet available. Those technologies will make the internal combustion engine obsolete. We are close. In fact, Ford recently announced the electronic version of its best-selling truck. According to Ford’s press release:

“The truck of the future is here. The F-150 Lightning is the smartest, most innovative truck Ford has ever built. From near instant torque to intelligent towing, seamless connectivity to software updates, plus power for your home, a power frunk and a digital screen that’s larger than any currently offered on a full-size truck – F-150 Lightning is a driving and ownership experience unlike any other.”

With federal tax incentives, the cost of the truck is competitive with the gasoline-powered version. The Ford F-150 is an indicator of technological process, and we will soon learn if it is able to win over truck-buyers.

Solar technology is also improving, but current technology is expensive, toxic, and large. Smaller, less toxic, and cheaper solar cells are now being invented. During the debate after John Kerry’s recent interview on BBC One’s Andrew Marr show, I kept hearing from climate experts and advocates that we have the technology we need and the search for new technology is just an excuse for inaction. I’m reminded of the pictures of people with the first cell phones in the 1980s. They were the size of a brick, cost about $10,000 (in 1980 dollars) and had very limited battery life. In 2004 we got the flip phone with seven hours of battery life, and a few years later, Apple invented the iPhone, which led to the small computers we keep in our pockets today. Sure, we had cell phones 40 years ago, but they were not ready for prime time. The need for additional research and the development of new technology is not an excuse for inaction today but an argument for a broader set of actions than simply using off-the-shelf technology. A key action is research leading to new technologies.

The transition to renewable energy and electronic vehicles has begun, but additional technological innovation and infrastructure investment will be needed to succeed. The larger problem will be the greenhouse gases produced when we manufacture steel, cement, and food. These industrial processes must also reduce their production of greenhouse gasses and developing the technology needed for these changes will be a massive national undertaking. As Ula Chrobak observed in a recent issue of Popular Science:

“… making electricity is only about a third of global emissions and a quarter of US emissions, explains Zeke Hausfather, director of climate and energy at the Breakthrough Institute. There are other energy-intensive sectors that can’t readily switch to sustainable alternatives. Industrial processes—including steel, cement, and chemical production—are not straightforward to clean up. One reason is that many rely on temperatures of around 1,000°C, which can be easily produced through a fossil-powered furnace, but doing the same with an electric heater requires a prohibitively expensive amount of energy. The process of turning atmospheric nitrogen into fertilizer, for instance, produces 1.4 percent of all global CO2 emissions. For these industries, hydrogen and carbon capture technologies may be needed to help remove all emissions.”

#### Here’s more ev – Market innovation is key to resolving climate change

**Gunther 15** – writer for the Guardian, citing Ramez Naam, holds a seat on the advisory board of the Acceleration Studies Foundation, is a member of the World Future Society, a Senior Associate of the Foresight Institute, and a fellow of the Institute for Ethics and Emerging Technologies, (Marc, “Ramez Naam: capitalism is not the enemy of climate,” The Guardian, Jun 30 2015, <https://www.theguardian.com/sustainable-business/2015/jun/30/ramez-naam-capitalism-climate-change-ideas-markets>, jwg)

Natural resources – notably the atmosphere’s capacity to absorb greenhouse gases – may be limited, Naam argues, but ideas and innovation are not. Lately, Naam has been sharing his can-do optimism, along with specific solutions, on his blog, at conferences (most recently Sustainable Brands) and as a teacher at Singularity University, a think tank designed to inspire and equip business leaders to tackle humanity’s big problems. None is bigger than climate change, Raam told me when we met recently. This is because of its peculiar economic, political and scientific dimensions. The costs of fixing climate change are short term and local; the benefits are long term and global. Equity issues, meaning who should pay for higher energy or adaptation costs, are thorny. Meanwhile, carbon dioxide, which is being emitted at an unprecedented rate, persists in the atmosphere for decades, so time to solve the problem is running short. Bringing billions of people out of poverty, feeding a growing planet and stewarding water resources while reducing greenhouse gas emissions “may well be the largest challenge that humanity has ever faced”, Naam says. “The problems are vast. They’re very substantial. They will not solve themselves on their own. But if we make a concerted effort, they are not insurmountable.” What’s to be done? When Naam talks about innovation, he’s not talking simply about new technology. Innovative business models and policy are vital. “Technology innovation is often facilitated or bootstrapped by policy innovation, and it’s driven along by business-model innovation,” he says. All require strong business leadership from big companies and startups alike, he says. Naam argues that capitalism isn’t the enemy of climate, as Naomi Klein has written; to the contrary, **well-regulated markets will drive climate solutions.** Consider solar power, one of the technologies, along with wind, battery storage and, possibly, nuclear, that he’s counting on to transform the world’s energy system. “Over the last 35 years or so,” he says, “the price of solar modules has dropped by a staggering 150 times.” This is promising news, especially, to the more than one billion people without electricity, most in Africa and South Asia. They “almost all live in the sunny parts of the world, a lucky coincidence for us and for them”, he says. With help from the World Bank, India is now building what will likely be the world’s largest solar plant. “This is a disruptive technology,” Naam says. To rapidly drive the uptake of solar, though, business-model innovation is needed. The US firm Solar City, for example, came up with what in retrospect is a simple idea: finance the upfront capital costs of solar for homeowners and businesses so they can pay-as-they-go and realize immediate savings. “That was a triple bottom line win,” Naam says. “It was good for the customers, it was the good for the planet. And Solar City created a $6bn market cap out of thin air.” Many big companies, including Apple, Google and Microsoft, are already major buyers of clean energy, which drives prices down. “Every company and person that deploys clean energy makes it cheaper for everybody else,” Naam says. Now business leaders must take the next step, and become forceful advocates for smart clean energy policy, as Apple’s Tim Cook did last fall. Policy is the toughest nut to crack, Naam says. Solar would not be thriving without government subsidies in the US and, even more so, in Germany. To drive clean-energy innovation faster and further, Naam, like a growing number of business leaders and economists across the political spectrum, advocates a carbon tax. He’s got a simple, four-point plan for a carbon tax. First, pass the tax, give businesses and consumers five years to prepare for it, and start it at just $10 per ton of CO2. Second, raise the price by $10 a year until the US meets its emission targets. Third, put a tax on imports from countries that don’t tax carbon. Fourth, give all the money back to taxpayers, probably by reducing payroll of income taxes. States and cities are already adopting innovative climate policies. Washington will follow, Naam predicts, as the cost of climate solutions continue to fall, and the costs of inaction become clear. “We’ll make progress when those two lines cross,” he says.

#### Solves warming – key to tech innovation in the short term

Parenti 13 (Christian Parenti, Christian Parenti is a Puffin Foundation Writing Fellow, contributing editor at The Nation and a visiting professor at Brooklyn College, CUNY, “A Radical Approach to the Climate Crisis” [http://www.dissentmagazine.org/article/a-radical-approach-to-the-climate-crisis] Summer //mtc)

Several strands of green thinking maintain that capitalism is incapable of a sustainable relationship with non-human nature because, as an economic system, capitalism has a growth imperative while the earth is finite. One finds versions of this argument in the literature of eco-socialism, deep ecology, eco-anarchism, and even among many mainstream greens who, though typically declining to actually name the economic system, are fixated on the dangers of “growth.”¶ All this may be true. Capitalism, a system in which privately owned firms must continuously out-produce and out-sell their competitors, may be incapable of accommodating itself to the limits of the natural world. However, that is not the same question as whether capitalism can solve the more immediate climate crisis.¶ Because of its magnitude, the climate crisis can appear as the sum total of all environmental problems—deforestation, Over-fishing, freshwater depletion, soil erosion, loss of biodiversity, chemical contamination. But halting greenhouse gas emissions is a much more specific problem, the most pressing subset of the larger apocalyptic panorama.¶ And the very bad news is, time has run out. As I write this, news arrives of an ice-free arctic summer by 2050. Scientists once assumed that would not happen for hundreds of years.¶ Dealing with climate change by first achieving radical social transformation—be it a socialist or anarchist or deep-ecological/neo-primitive revolution, or a nostalgia-based localista conversion back to a mythical small-town capitalism—would be a very long and drawn-out, maybe even multigenerational, struggle. It would be marked by years of mass education and organizing of a scale and intensity not seen in most core capitalist states since the 1960s or even the 1930s.¶ Nor is there any guarantee that the new system would not also degrade the soil, lay waste to the forests, despoil bodies of water, and find itself still addicted to coal and oil. Look at the history of “actually existing socialism” before its collapse in 1991. To put it mildly, the economy was not at peace with nature. Or consider the vexing complexities facing the left social democracies of Latin America. Bolivia, and Ecuador, states run by socialists who are beholden to very powerful, autonomous grassroots mOVements, are still very dependent on petroleum revenue.¶ A more radical approach to the crisis of climate change begins not with a long-term vision of an alternate society but with an honest engagement with the very compressed timeframe that current climate science implies. In the age of climate change, these are the real parameters of politics.¶ Hard Facts¶ The scientific consensus, expressed in peer-reviewed and professionally vetted and published scientific literature, runs as follows: For the last 650,000 years atmospheric levels of CO2—the primary heat-trapping gas—have hOvered at around 280 parts per million (ppm). At no point in the preindustrial era did CO2 concentrations go abOVe 300 ppm. By 1959, they had reached 316 ppm and are now Over 400 ppm. And the rate of emissions is accelerating. Since 2000, the world has pumped almost 100 billion tons of carbon into the atmosphere—about a quarter of all CO2 emissions since 1750. At current rates, CO2 levels will double by mid-century.¶ Climate scientists believe that any increase in average global temperatures beyond 2 degrees Celsius abOVe preindustrial levels will lead to dangerous climate change, causing large-scale desertification, crop failure, inundation of coastal cities, mass migration to higher and cooler ground, widespread extinctions of flora and fauna, proliferating disease, and possible social collapse. Furthermore, scientists now understand that the earth’s climate system has not evolved in a smooth linear fashion. Paleoclimatology has uncOvered evidence of sudden shifts in the earth’s climate regimes. Ice ages have stopped and started not in a matter of centuries, but decades. Sea levels (which are actually uneven across the globe) have risen and fallen more rapidly than was once believed.¶ Throughout the climate system, there exist dangerous positive-feedback loops and tipping points. A positive-feedback loop is a dynamic in which effects compound, accelerate, or amplify the original cause. Tipping points in the climate system reflect the fact that causes can build up while effects lag. Then, when the effects kick in, they do so all at once, causing the relatively sudden shift from one climate regime to another.¶ Thus, the UN’s Intergovernmental Panel on Climate Change says rich countries like the United States must cut emissions 25 percent to 40 percent below 1990 levels by 2020—only seven years away—and thereafter make precipitous cuts to 90 percent below 1990 levels by 2050. This would require global targets of 10 percent reductions in emissions per annum, starting now. Those sorts of emissions reductions have only occurred during economic depressions. Russia’s near total economic collapse in the early 1990s saw a 37 percent decrease in CO2 emissions from 1990 to 1995, under conditions that nobody wants to experience. ¶ The political implications of all this are mind-bending. As daunting as it may sound, it means that it is this society and these institutions that must cut emissions. That means, in the short-term, realistic climate politics are reformist politics, even if they are conceived of as part of a longer-term anti-capitalist project of totally economic re-organization.¶ Dreaming the Rational¶ Of course, successful reformism often involves radical means and revolutionary demands. What other sort of political pressure would force the transnational ruling classes to see the scientific truth of the situation? But let us assume for a second that political elites faced enough pressure to force them to act. What would be the rational first steps to stave off climate chaos?¶ The watchwords of the climate discussion are mitigation and adaptation—that is, we must mitigate the causes of climate change while adapting to its effects. Mitigation means drastically cutting our production of CO2 and other greenhouse gases, such as methane and chlorofluorocarbons, that prevent the sun’s heat from radiating back out to space.¶ Mitigation means mOVing toward clean energy sources, such as wind, solar, geothermal, and tidal kinetic power. It means closing coal-fired power plants, weaning our economy off fossil fuels, building a smart electrical grid, and making massive investments in carbon-capture and -sequestration technologies. (That last bit of techno-intervention would have to be used not as a justification to keep burning coal, as is its current function, but to strip out atmospheric CO2 rapidly and get back to 350 ppm and away from the dangerous tipping points.)¶ Adaptation, on the other hand, means preparing to live with the effects of climatic changes, some of which are already underway and some of which are inevitable. Adaptation is both a technical and a political challenge.¶ Technical adaptation means transforming our relationship to non-human nature as nature transforms. Examples include building seawalls around vulnerable coastal cities, giving land back to mangrOVes and everglades so they can act to break tidal surges during giant storms, opening wildlife migration corridors so species can mOVe away from the equator as the climate warms, and developing sustainable forms of agriculture that can function on an industrial scale even as weather patterns gyrate wildly.¶ Political adaptation, on the other hand, means transforming social relations: devising new ways to contain, avoid, and deescalate the violence that climate change is fueling and will continue to fuel. That will require progressive economic redistribution and more sustainable forms of development. It will also require a new diplomacy of peace building.¶ Unfortunately, another type of political adaptation is already under way—that of the armed lifeboat. This adaptation responds to climate change by arming, excluding, forgetting, repressing, policing, and killing. The question then becomes how to conceive of adaptation and mitigation as a project of radical reform—reforms that achieve qualitative change in the balance of power between the classes.¶ The core problem in the international effort to cut emissions is fundamentally the intransigence of the United States: it failed to ratify the Kyoto Protocol and has played an obstructionist role at subsequent negotiations. Domestically, progress has been just as frustratingly slow. We have no carbon tax, nor any program of robust investment in clean technology. Even the minimal production tax credit for clean energy generated by solar, wind, and hydro power has not been locked in as a long-term commitment. This creates uncertainty about prices, and, as a result, private investment in clean tech is stalling.¶ China, on the other hand, though now the world’s second-largest economy and largest greenhouse gas polluter, is mOVing ahead with a fast-growing clean-tech industry—that is to say, with mitigation. The Chinese wind sector has grown steadily since 2001. “According to new statistics from the China Electricity Council,” reported American Progress senior fellow Joseph Romm, “China’s wind power production actually increased more than coal power production for the first time ever in 2012.” This growth is the result, in part, of robust government support: China has invested $200.8 billion in stimulus funding for clean tech. Estimates of U.S. stimulus funding for clean technology range from $50 to $80 billion.¶ The European Union is also mOVing forward to create a €1 trillion regional supergrid. Germany and Portugal in particular are mOVing aggressively to expand their already quite large clean-tech sectors. Action in the core industrial economies is essential because only they have the infrastructure that can propel the clean-tech revolution and transform the world economy.¶ A De Facto Carbon Tax¶ Environmental economists tend to agree that the single most important thing the United States could do to accelerate the shift to clean energy would be to impose a carbon tax. Despite our political sclerosis and fossil fuel fundamentalism, the means to do that already exist.¶ First and foremost, there is the Environmental Protection Agency, which could achieve significant and immediate emissions reductions using nothing more than existing laws and current technologies. According to Kassie Siegel at the Center for Biological Diversity, “The Clean Air Act can achieve everything we need: a 40 percent reduction of greenhouse gas emissions Over 1990 levels by 2020.”¶ Rather boring in tone and dense with legalistic detail, the ongoing fight Over EPA¶ rulemaking is probably the most important environmental battle in a generation. Since 2007, thanks to the pressure and lawsuits of green activists, the EPA has had enormous—but under-utilized—power. That was the year when the Supreme Court ruled, in Massachusetts v. Environmental Protection Agency, that the agency should determine whether greenhouse gases threaten human health. In December 2010, the EPA published a science-based “endangerment finding,” which found that CO2 and five other greenhouse gases are, in fact, dangerous to human life because they cause global warming.¶ Once the EPA issues an endangerment finding, it is legally bound to promulgate regulations to address the problem. The first of these post–Massachusetts v. EPA “tailoring rules” were for “mobile sources.” Between 2011 and 2012, regulations for cars and for trucks went into effect. Then the EPA set strict limits for new power plants in 2012. But other major sources of greenhouse gas pollution—like existing electric power plants (which pump out roughly 40 percent of the nation’s total GHG emissions), oil refineries, cement plants, steel mills, and shipping—have yet to be properly regulated pursuant to Massachusetts v. EPA.¶ If the EPA were to use the Clean Air Act—and do so “with extreme prejudice”—it could impose a de facto carbon tax. Industries would still be free to burn dirty fossil fuels, but they would have to use very expensive, and in some cases nonexistent, new technology to meet emission standards. Or they would have to pay very steep and mounting fines for their emissions. Such penalties could reach thousands of dollars per day, per violation. Thus, a de facto carbon tax. Then cheap fossil fuel energy would become expensive, driving investment toward carbon-neutral forms of clean energy like wind and solar. For extra measure we could end fossil fuel subsidies. Before long, it would be more profitable to invest in clean energy sources than dangerous and filthy ones.¶ Big Green Buy and U.S. “Shadow Socialism”¶ According to clean-tech experts, innovation is now less important than rapid, large-scale implementation. In other words, developing a clean-energy economy is not about new gadgets but about new policies. Most of the energy technologies we need already exist. You know what they are: wind farms, concentrated solar power plants, geothermal and tidal power, all feeding an efficient smart grid that, in turn, powers electric vehicles and radically more energy-efficient buildings.¶ But leading clean technologies remain slightly more expensive than the old dirty-tech alternatives. This “price gap” is holding back the mass application of clean technology. The simple fact is that capitalist economies will not switch to clean energy until it is cheaper than fossil fuel. The fastest way to close the price gap is to build large clean-tech markets that allow for economies of scale. But what is the fastest way to build those markets? More research grants? More tax credits? More clumsy pilot programs?¶ Government procurement is one of the hidden tools of American capitalism’s “shadow socialism.”¶ No. The fastest, simplest way to do it is to reorient government procurement away from fossil fuel energy and toward clean energy and technology—to use the government’s vast spending power to create a market for green energy. Elsewhere, I have called this the Big Green Buy. Consider this: federal, state, and local government constitute more than 38 percent of our GDP. In more concrete terms, Uncle Sam owns or leases more than 430,000 buildings (mostly large office buildings) and 650,000 vehicles. (Add state and local government activity, and all those numbers grow by about a third again.) The federal government is the world’s largest consumer of energy and vehicles, and the nation’s largest greenhouse gas emitter.¶ Government procurement is one of the hidden tools of American capitalism’s “shadow socialism.” By shadow socialism I refer to the massively important but often Overlooked role of government planning, investment, subsidy, procurement, and ownership in the economic development of American capitalism. A detailed account of that history is offered in Michael Lind’s book Land of Promise. From railroads, to telecommunications, and aviation and all the attendant sub-industries of these sectors, government has provided the capital and conditions for fledging industries to grow large. For example, government didn’t just fund the invention of the microprocessor; it was also the first major consumer of the device. Throughout the 1950s, more than half of IBM’s revenue came from government contracts. Along with money, these contracts provided a guaranteed market and stability for IBM and its suppliers, and thus attracted private investment—all of which helped create the modern computer industry.¶ Now consider the scale of the problem: our asphalt transportation arteries are clogged with 250 million gasoline-powered vehicles sucking down an annual $200 to $300 billion worth of fuel from more than 121,000 filling stations. Add to that the cost of heating and cooling buildings, jet travel, shipping, powering industry, and the energy-gobbling servers and mainframes that are the Internet, and the U.S. energy economy reaches a spectacular annual tab of 1.2 trillion dollars.¶ A redirection of government purchasing would create massive markets for clean power, electric vehicles, and efficient buildings, as well as for more sustainably produced furniture, paper, cleaning supplies, uniforms, food, and services. If government bought green, it would drive down marketplace prices sufficiently that the momentum toward green tech would become self-reinforcing and spread to the private sector.¶ Executive Order 13514, which Obama signed in 2009, directed all federal agencies to¶ increase energy efficiency; measure, report, and reduce their greenhouse gas emissions from direct and indirect activities; conserve and protect water resources through efficiency, reuse, and storm water management; eliminate waste, recycle, and prevent pollution; leverage agency acquisitions to foster markets for sustainable technologies and environmentally preferable materials, products, and services; design, construct, maintain, and operate high performance sustainable buildings in sustainable locations.¶ The executive order also stipulates that federal agencies immediately start purchasing 95 percent through green-certified programs and achieve a 28 percent greenhouse gas reduction by 2020. But it has not been robustly implemented.¶ Government has tremendous latitude to leverage green procurement because it requires no new taxes, programs, or spending, nor is it hostage to the holy grail of sixty votes in the Senate. It is simply a matter of changing how the government buys its energy, vehicles, and services. Yes, in many cases clean tech costs more up front, but in most cases, savings arrive soon afterward. And government—because of its size—is a market mOver that can leverage money-saving deals if it wishes to. ¶ Protest and the “Relative Autonomy” of the State¶ Why would the capitalist state mOVe to euthanize the fossil fuel industry, that most powerful fraction of the capitalist class? Or put another way, how can the state regain some of its “relative autonomy” from capital? History indicates that massive, crisis-producing protest is one of the most common reasons a modern state will act against the interests of specific entrenched elites and for the “general interest” of society. When the crisis of protest is bad enough, entrenched elites are forced to take a loss as the state imposes ameliorative action for the greater good of society.¶ Clearly, we need to build a well-organized, broadly supported, yet tactically and strategically radical mOVement to demand proper climate policy. For such a mOVement to be effective it must use myriad tactics, from lawsuits and lobbying to direct action such as tree-sits, road blockades, and occupations aimed at the infrastructure of the fossil fuel industry. Only by disrupting the working of the political and economic system as a whole can we forge a consensus that ending the fossil fuel sector is essential. (The work of Francis Fox Piven and Richard Cloward is, in my opinion, still among the best in tracing the dynamic of this process of rebellion and reform.)¶ At question, then, is not just the state’s capacity to evolve, but the capacity of the American people to organize and mobilize on a massive scale. Far be it from me to say exactly how such mOVements could or should be built, other than the way they always have been: by trial and error and with good leadership. MOVement building is a mass and organic process.¶ The Rebellion of Nature¶ Along with protest, a more organic source of crisis is already underway and may also help scare political elites into confronting big carbon. Climate change is a “rebellion of nature,” by which I mean the disruption caused by ecological breakdown. The history of environmental regulation in the West is, in many ways, the story of protest and advocacy combining with the rebellion of nature at the local (urban) scale. Together, they have forced rudimentary regulation in the name of health and sanitation.¶ By the 1830s, America’s industrial cities had become perfect incubators of epidemic disease, particularly cholera and yellow fever. Like climate change today, these diseases hit the poor hardest, but they also sickened and killed the wealthy. Class privilege offered some protection, but it was not a guarantee of safety. And so it was that middle-class “goo-goos” and “mugwumps” began a series of reforms that contained and eventually defeated the urban epidemics.¶ First, garbage-eating hogs were banned from city streets, then public sanitation programs of refuse collection began, sewers were built, safe public water provided, and housing codes were developed and enforced. Eventually, the epidemics of cholera stopped. Soon other infectious diseases, such as pulmonary tuberculosis, typhus, and typhoid, were largely eliminated. At the scale of the urban, capitalist society solved an environmental crisis through planning and public investment.¶ Climate change is a problem of an entirely different order of magnitude, but these past solutions to smaller environmental crises offer lessons. Ultimately, solving the climate crisis—like the nineteenth-century victory Over urban squalor and epidemic contagions—will require a re-legitimation of the state’s role in the economy.¶ The modern story of local air pollution offers another example of the “rebellion of nature.” As Jim McNeil outlines in Something New Under The Sun, smog inundations in industrial cities of the United States and Europe used to kill many people. In 1879–1880 smog killed 3,000 Londoners, and in Glasgow a 1909 inversion—where cold air filled with smoke from burning coal was trapped near the ground—killed 1,063. As late as 1952, a pattern of cold and still air killed 4,000 people in London, according to McNeil, and even more according to others. By 1956, the Britons had passed a clean air act that drOVe coal out of the major cities. In the United States there was a similar process. In 1953, smog in New York killed between 170 and 260 people, and as late as 1966 a smog inversion killed 169 New Yorkers. All of this helped generate pressure for the Clean Air Act of 1970.¶ Today, a similar process is underway in China. Local air quality is so bad that it is forcing changes to Chinese energy policy. A major World Bank study has estimated that “the combined health and non-health cost of outdoor air and water pollution for China’s economy comes to around $US 100 billion a year (or about 5.8% of the country’s GDP).” People across China are protesting pollution. Foreign executives are turning down positions in Beijing because of the toxic atmospheric stew that western visitors have taken to calling “airpocalypse.” The film director Chen Kaige, who won the Palme d’Or for his 1993 film Farewell My Concubine, told the world he couldn’t think or make films because of the Chinese capital’s appallingly bad air.¶ These local pressures are a large part of what is driving Chinese investment in renewable energy. Last year China added more energy capacity from wind than from the coal sector.¶ Capitalism vs. Nature?¶ Some of the first thinkers to note a conflict between capitalism and non-human nature were Karl Marx and Friedrich Engels. They came to their ecology through examining the local problem of relations between town and country—expressed simultaneously as urban pollution and rural soil depletion. In exploring this question they relied on the pioneering work of soil chemist Justus von Liebig. And from this small-scale problem, they developed the idea of capitalism creating a rift in the metabolism of natural processes.¶ Here is how Marx explained the dilemma:¶ Capitalist production collects the population together in great centers, and causes the urban population to achieve an ever-growing preponderance. This has two results. On the one hand it concentrates the historical motive force of society; on the other hand, it disturbs the metabolic interaction between man and the earth, i.e., it prevents the return to the soil of its constituent elements consumed by man in the form of food and clothing; hence it hinders the operation of the eternal natural condition for the lasting fertility of the soil….All progress in capitalist agriculture is a progress in the art, not only of robbing the worker, but of robbing the soil.¶ And as with “soil robbing,” so too concentrations of atmospheric CO2: the natural systems are out of sync; their elements are being rearranged and redistributed, ending up as garbage and pollution.¶ It may well be true that capitalism is incapable of accommodating itself to the limits of the natural world. But that is not the same question as whether or not capitalism can solve the climate crisis. Climate mitigation and adaptation are merely an effort to buy time to address the other larger set of problems that is the whole ecological crisis.¶ This is both a pessimistic and an optimistic view. Although capitalism has not Overcome the fundamental conflict between its infinite growth potential and the finite parameters of the planet’s pollution sinks, it has, in the past, addressed specific environmental crises.¶ Anyone who thinks the existing economic system must be totally transformed before we can deal with the impending climate crisis is delusional or in willful denial of the very clear findings of climate science. If the climate system unravels, all bets are off. The many progressive visions born of the Enlightenment will be swallowed and forgotten by the rising seas or smashed to pieces by the wrathful storms of climate chaos.

#### Any alternative to capitalism is terrible for the environment – Leads to inefficiencies, deforestation, increased land use and more emissions

Phillips 15 (Leigh Phillips is a science writer and European Union affairs journalist. Writing for Nature, the Guardian, the Daily Telegraph, the New Statesman, Jacobin, Scientific American, amongst other outlets, “Austerity Ecology & the Collapse-porn Addicts A defence of growth, progress, industry and stuff” ebook) DAH

But the Kool-Aid of the cult of localism is not just being drunk by Rob and Tony and Naomi. Localism is pushed by Bill McKibben—the ex-New Yorker journalist, initiator of the 400,000-strong People’s Climate March outside the UN climate talks in New York in the fall of 2014, and supremo of international climate-change activist group 350.org—in his latest book, Eaarth: Making a Life on a Tough New Planet (yes, that’s spelt correctly—McKibben added an extra ‘a’). Localism is the focus of novelist Barbara Kingsolver’s Animal, Vegetable, Miracle, a memoir of her family’s efforts to eat only food that they had grown themselves or obtain locally for a full year; as it is of The 100-Mile Diet by Alisa Smith and James MacKinnon, and most of food writer Michael Pollan’s oeuvre. There’s Local: The New Face of Food and Farming in America by Douglas Gayeton; The Locavore’s Handbook by Leda Meredith and Sandor Ellix Katz; cookbooks like Local Flavors: Cooking and Eating from America’s Farmers’ Markets by Deborah Madison. Twee little signs hand-calligraphed or rubber-stamp-printed on moss-green parchment and lavender-blush vellum card-stock in cafes, farmers’ markets and high-end grocery stores declare the localist virtue and upstandingness of their muffins, cranberry horseradish and herbal alternatives to deodorant. Busybody Facebook commissars enforce localist doctrine criticising the consumer choices of their friends (when they’re not judging their parenting choices). The local food movement has achieved such ubiquity that it became the mocking subject of satirical comedy series Portlandia in a sketch called ‘Is it Local?’, in which a pair of ethical restaurant-goers grill their waitress about the sustainable pedigree of the dish they are thinking of ordering, which involves a woodland-raised, heritage-breed chicken that has been fed a diet of sheep’s milk, soy and hazelnuts, from 30 miles south of Portland, and is named Colin. It seems so simple: food (or anything else) produced locally will not require the carbon-spewing transportation of such items via cargo ship or truck or plane from far away. It appears to be an easy rule of thumb enabling consumers to do the right thing. But the reality is a great deal more complicated. Instead of the crude heuristic of ‘food miles’, if we are genuinely concerned about greenhouse gas emissions, we need to make sure we are actually doing good, not just feeling good. That means that we need to base such decisions on full life-cycle assessment (LCA) studies—a method of analysis that takes into account all aspects of the production and distribution of a product. And when we do look at LCAs, for some products, it turns out that yes, indeed, it does make sense to relocalise production, but for many, many other items, the economies of scale involved make the amount of energy employed and thus greenhouse-gas emissions per item far less than an item that is locally produced, despite the thousands of ‘food-miles’. According to a 2005 UK Department of Environment, Food and Rural Affairs analysis,64 tomato farmers in sunny Spain produce less CO2 than tomato farmers in frequently overcast Britain employing heated greenhouses (630 kg of CO2 vs 2,394 kg of CO2 per tonne). The same is true of Kenyan versus Dutch rose growers, with the former producing six tonnes of CO2 per 12,000 roses cut, and the latter producing 35 tonnes of CO2 for the same amount.65 It is the production of food that that has the largest energy appetite, rather than transportation. Again, it is simply more efficient to have the roses grown where flower production depends almost entirely on the warmth of the sun in equatorial Kenya rather than on the heating and lighting systems of the temperate Netherlands. A similar investigation in 2008 by Carnegie Mellon researchers Christopher Weber and Scott Matthews,66 covering the American situation, found that 83 percent of an average household’s carbon footprint came from emissions during the production phase, with just four percent of full life-cycle greenhouse gas emissions coming from transport from producer to retailer. Weber and Matthews found that due to the different carbon-intensity of the production and distribution of different items, with red meat on average roughly 150 percent more carbon-intensive than chicken or fish, a far more effective rule of thumb than “buying local” would be a dietary shift away from beef and milk. “Shifting less than one day per week’s worth of calories from red meat and dairy products to chicken, fish, eggs or a vegetable-based diet achieves a greater greenhouse gas reduction than buying all locally sourced food,” they conclude. In a similar fashion, in terms of the amount of water used, it can be far more sensible to produce food in areas with heavy precipitation than in arid zones, reducing the need for irrigation, disruption of natural river flows, and piercing of aquifers. Some 70 percent of our freshwater use occurs in agriculture, so this should be a key concern of the localist eco-defenders. Geographer Pierre Desrochers and public policy analyst Hiroko Shimizu describe how agriculture that is local, small-scale, less-technology-intensive—and crucially, by definition, low in productivity—is necessarily more extensive, that is, it uses up much more land for the same amount of food. There is a very simple reason for this. Not every plot of land, with its particular climate, soil type, geology, topography and so on—its terroir, if you will (and I use that term fully aware of the irony of its presence in an essay arguing against localism)—is equally well suited to all types of plant and animal. Specialisation and a division of labour between different regions that are better at growing different items is thus a more efficient use of land: you’ll get more calories produced per hectare.67 The inverse of this process—disintensification, which localism requires—means turning more forest, wetlands and grasslands into agricultural space, releasing vast quantities of carbon in the immediate term and, in the future, eliminating the carbon sinks that forests would have represented. This process of indirect land-use change is essentially why biofuels have proven to be no climate solution. The defenders of localism are in thus little different to the biofuels industry, clinging to a particular agricultural practice long after the evidence has shown it to actually exacerbate climate change. A focus on local seasonality fails for the same reason. If we say: Buy as seasonally as possible, the first question that must be asked in response is: Which region’s seasonality are we talking about? New Zealand’s apple harvest season happens when it’s winter in the UK, making it more sensible to ship fresh granny smiths all the way from the Antipodes to Europe than to keep British apples in cold storage for six months. The same goes for New Zealand lamb, dairy products and onions, according to a trio of researchers at Wellington’s Lincoln University.68 Meanwhile another 2003 study from German researchers Elmar Schlich and Ulla Fleissner69 found via a full life-cycle assessment that large-scale Brazilian orange juice producers shipping their product around the world had lower per-unit energy demands than small-scale German apple juice squeezers driving their truck just ten kilometres to market. If the advice instead is not local seasonality, but ‘global seasonality’, picking things to eat when they’re in season wherever they come from, then yes, in principle, you may see some carbon emission reductions due to shorter storage periods. But in the modern era, most food items are always in season somewhere in the world. This isn’t true for all items, and for such products, a preference for their seasonality might make sense, but then again, this should be assessed on a case-by-case basis, using an LCA to take into account all the other variables related to carbon emissions. To do this would require something like a very detailed spreadsheet comparing all the different products and their component inputs, transport, storage requirements and packaging rather than the clumsy heuristic of “Buy seasonal!”, which, as demonstrated, in a number of cases is actually detrimental in terms of mitigating climate change. Such Excel Hell might make sense for more rational agricultural planning, but as far as an individual consumer is concerned, it would be far more effective to expend one’s time fighting for clean energy infrastructure than on this sort of faff.

#### [5] Living Conditions: Globalization and capitalism have empirically reduced inequality and drastically improved living conditions

Economist 16 —[“Why they’re wrong,” *The Economist*, 2016, http://www.economist.com/news/leaders/21707926-globalisations-critics-say-it-benefits-only-elite-fact-less-open-world-would-hurt, accessed 4 Dec 2016]

The backlash against trade is just one symptom of a pervasive anxiety about the effects of open economies. Britain’s Brexit vote reflected concerns about the impact of unfettered migration on public services, jobs and culture. Big businesses are slammed for using foreign boltholes to dodge taxes. Such critiques contain some truth: more must be done to help those who lose out from openness. But there is a world of difference between improving globalisation and reversing it. The idea that globalisation is a scam that benefits only corporations and the rich could scarcely be more wrong. The real pro-poor policy Exhibit A is the vast improvement in global living standards in the decades after the second world war, which was underpinned by an explosion in world trade. Exports of goods rose from 8% of world GDP in 1950 to almost 20% a half-century later. Export-led growth and foreign investment have dragged hundreds of millions out of poverty in China, and transformed economies from Ireland to South Korea. Plainly, Western voters are not much comforted by this extraordinary transformation in the fortunes of emerging markets. But at home, too, the overall benefits of free trade are unarguable. Exporting firms are more productive and pay higher wages than those that serve only the domestic market. Half of America’s exports go to countries with which it has a free-trade deal, even though their economies account for less than a tenth of global GDP. Protectionism, by contrast, hurts consumers and does little for workers. The worst-off benefit far more from trade than the rich. A study of 40 countries found that the richest consumers would lose 28 [percent] of their purchasing power if cross-border trade ended; but those in the bottom tenth would lose 63 [percent]. The annual cost to American consumers of switching to non-Chinese tyres after Barack Obama slapped on anti-dumping tariffs in 2009 was around $1.1 billion, according to the Peterson Institute for International Economics. That amounts to over $900,000 for each of the 1,200 jobs that were “saved”. Openness delivers other benefits. Migrants improve not just their own lives but the economies of host countries: European immigrants who arrived in Britain since 2000 have been net contributors to the exchequer, adding more than £20 billion ($34 billion) to the public finances between 2001 and 2011. Foreign direct investment delivers competition, technology, management know-how and jobs, which is why China’s overly cautious moves to encourage FDI disappoint (see article). What have you done for me lately? None of this is to deny that globalisation has its flaws. Since the 1840s advocates of free trade have known that, though the great majority benefit, some lose out. Too little has been done to help these people. Perhaps a fifth of the 6m or so net job losses in American manufacturing between 1999 and 2011 stemmed from Chinese competition; many of those who lost jobs did not find new ones. With hindsight, politicians in Britain were too blithe about the pressures that migration from new EU member states in eastern Europe brought to bear on public services. And although there are no street protests about the speed and fickleness in the tides of short-term capital, its ebb and flow across borders have often proved damaging, not least in the euro zone’s debt-ridden countries. As our special report this week argues, more must be done to tackle these downsides. America spends a paltry 0.1% of its GDP, one-sixth of the rich-country average, on policies to retrain workers and help them find new jobs. In this context, it is lamentable that neither Mr Trump nor Mrs Clinton offers policies to help those whose jobs have been affected by trade or cheaper technology. On migration, it makes sense to follow the example of Denmark and link local-government revenues to the number of incomers, so that strains on schools, hospitals and housing can be eased. Many see the rules that bind signatories to trade pacts as an affront to democracy. But there are ways that shared rules can enhance national autonomy. Harmonising norms on how multinational firms are taxed would give countries greater command over their public finances. A co-ordinated approach to curbing volatile capital flows would restore mastery over national monetary policy. These are the sensible responses to the peddlers of protectionism and nativism. The worst answer would be for countries to turn their backs on globalisation. The case for openness remains much the same as it did when this newspaper was founded to support the repeal of the Corn Laws. There are more—and more varied—opportunities in open economies than in closed ones. And, in general, greater opportunity makes people better off. Since the 1840s, free-traders have believed that closed economies favour the powerful and hurt the labouring classes. They were right then. They are right now.

#### The world is getting better because of capitalism – violence, genocide, and war are down and poverty has been drastically reduced

**Wyne**, MA contributing analyst at Wikistrat and a Global Fellow at PS21, **2015** (Ali, “The World Is Becoming Safer, Wealthier and Healthier”, Huffington Post, March 16, 2015, http://www.huffingtonpost.com/ali-wyne/the-world-is-becoming-saf\_b\_6878664.html)

There are plenty of reasons to despair about the state of the world: ISIL's depredations in the Middle East, Boko Haram's atrocities in Nigeria, and Russia's slow-drip incursion into Ukraine are just a few. These phenomena are more distressing when one considers that they're occurring against the backdrop of an eroding postwar order. Contrary to the oft-heard refrain, though, that the world is becoming more dangerous -- or, according to some observers, has never been more dangerous -- it has actually never been safer. Steven Pinker and Andrew Mack recently documented the declines in global rates of homicide, violence against women, genocide, and war, among other categories. We're also becoming more prosperous. According to the U.S. Department of Agriculture, real global GDP more than tripled between 1970 and 2010, and real global GDP per capita nearly doubled. Last month the Economist reported that the percent of the world's population living in "abject poverty" fell from 36 in 1990 to 18 in 2010 (translating to about 900 million people who escaped that condition). Finally, we're living longer, better lives. The University of Washington's Institute of Health Metrics and Evaluation found that "global life expectancy increased by 5.8 years for men and 6.6 years for women" between 1990 and 2013. According to the United Nations, moreover, the mortality rate for children under five fell from 90 per thousand births to 46 during that same period, while the percent of the world's population that is "clinically malnourished" fell more than seven points. It's no accident the world is becoming safer, wealthier and healthier: there are extraordinary people around the world who're trying to make it better. Too often, though, their names remain unknown; their contributions, unacknowledged. "What's Working" is a crucial platform for spotlighting them. When the news of the day feels overwhelming, I take comfort in three facts. First, the ingenuity of our minds has always scaled with the magnitude of our calling. There's no reason to believe it won't continue doing so. Second, we're pushing forward the frontiers of possibility every second, far more rapidly than we can comprehend. Before coming to MIT, I believed certain problems were simply too hard for human beings to address. In retrospect, though, my skepticism simply reflected my failure of imagination. I now assume that once a problem has been identified, folks will eventually solve it or find a way to manage it. The tipping point for me came six years ago, when MIT News ran an article discussing a new project Professor Angela Belcher and a few of her colleagues had undertaken. "For the first time," it explained, "MIT researchers have shown they can genetically engineer viruses to build both the positively and negatively charged ends of a lithium-ion battery." If we can figure out how to make batteries from viruses -- I never imagined I'd see those two words in the same sentence, and I still can't get my head around the idea -- what can't we do? Third, no matter what problem keeps you up at night, there are brilliant, passionate people around the world who're working on it. You may not hear about them amid the daily barrage of depressing headlines, but they're easy to find if you want to find them. Among the extraordinary individuals I've met, spoken to over e-mail, or reconnected with in recent months: Ruzwana Bashir, the cofounder and CEO of Peek, who's using her own experience of sexual abuse to help other victims find their voices; Pardis Sabeti, a professor of organismic and evolutionary biology at Harvard, who's developing treatments to fight Ebola; Donald Sadoway, a professor of materials chemistry at MIT, whose work on liquid-metal batteries could revolutionize electricity storage; Shiza Shahid, the cofounder of the Malala Fund, who's working to give young women around the world a chance at an education; and Wes Moore, author of The Other Wes Moore and The Work, who cofounded BridgeEdU to help at-risk youth in Baltimore graduate from college. There's an enormous amount of work to be done -- slowing the course of climate change, feeding a growing population and resettling tens of millions of refugees, to name but a few challenges -- but dwelling on everything that's wrong and fretting about everything that could go wrong won't help. Let's spend less time lamenting the state of the world and more time supporting those who're making it better.

#### [6] Epistemology DA to all of their scholarship - they don’t get offense - their evidence is futile and biased intellectual pride

**Saunders 7** (Peter, Adjunct Professor at the [Australian Graduate School of Management](http://en.wikipedia.org/wiki/Australian_Graduate_School_of_Management), Why Capitalism is Good for the Soul, <http://www.cis.org.au/POLICY/summer%2007-08/saunders_summer07.html> //shree)

Andrew Norton notes that disaffected **intellectuals** since Rousseau **have been attacking capitalism** for its failure to meet ‘true human needs.’[(26)](http://www.cis.org.au/POLICY/summer%2007-08/saunders_summer07.html#26) **The claim is unfounded**, so what is it about capitalism that so upsets them?  Joseph Schumpeter offered part of the answer. He observed that **capitalism has brought into being an educated class that** has no responsibility for practical affairs, and that this class can only make a mark by criticising the system that feeds them.[(27)](http://www.cis.org.au/POLICY/summer%2007-08/saunders_summer07.html#27) Intellectuals **attack capitalism because that is how the**y sell books and **build careers**.   More recently, Robert Nozick has noted that **intellectuals spend their childhoods excelling** at school, where they occupy the top positions in the hierarchy, **only to find later in life that their market value is** much **lower than they believe they are worth**. Seeing ‘mere traders’ enjoying higher pay than them is unbearable, and it generates irreconcilable disaffection with the market system.[(28)](http://www.cis.org.au/POLICY/summer%2007-08/saunders_summer07.html#28)  But the best explanation for the intellectuals’ distaste for capitalism was offered by Friedrich Hayek in The Fatal Conceit.[(29)](http://www.cis.org.au/POLICY/summer%2007-08/saunders_summer07.html#29) Hayek understood that **capitalism offends intellectual pride, while socialism flatters it**. Humans like to believe they can design better systems than those that tradition or evolution have bequeathed. **We distrust evolved systems, like markets**, which seem to work without intelligent direction according to laws and dynamics that no one fully understands.   **Nobody planned the global capitalist system**, nobody **runs it, and** nobody really **comprehends it**. **This** particularly **offends intellectuals**, for capitalism renders them redundant. It gets on perfectly well without them. It does not need them to make it run, to coordinate it, or to redesign it. The intellectual critics of capitalism believe they know what is good for us, but millions of people interacting in the marketplace keep rebuffing them. This, ultimately, is why they believe capitalism is ‘bad for the soul’: it fulfils human needs without first seeking their moral approval.

## 2

#### Interpretation: the affirmative may only garner offense off the desirability of the hypothetical enactment of the resolution.

#### “Resolved:” refers to a legislative debate.

Louisiana State Legislature 16, “Glossary of Legislative Terms,” http://www.legis.state.la.us/glossary2.htm

Resolution: A legislative instrument that generally is used for making declarations, stating policies, and making decisions where some other form is not required. A bill includes the constitutionally required enacting clause; a resolution uses the term "resolved". Not subject to a time limit for introduction nor to governor's veto. (Const. Art. III, §17(B) and House Rules 8.11, 13.1, 6.8, and 7.4 and Senate Rules 10.9, 13.5 and 15.1)

#### Failing to defend topical action decimates the quality of debate for two reasons—

#### 1. Competitive equity—any alternative to our model of the topic as a baseline for discussion wrecks it—it’s impossible to negate alternative frameworks with the ground allocated to us by the parameters of the resolution—all 1AR defense to this claim will rely on concessionary ground which isn’t a stable basis for a year of debate.

#### 2. Truth testing—they moot the role of the negative which is to force the aff to defend their core assumptions—allowing affs to reframe the debate around their terms makes engagement impossible—outweighs and turns the aff because clash is the only way to translate anything debate gives us outside of the activity.

#### Policy-oriented research paradigms are best for ensuring the reduction of the potential for inequality in space.

Weeks, 12 – PhD, Webster University Adjunct Professor of International Relations

Edythe Weeks, “Outer Space Development, International Relations and Space Law: A Method for Elucidating Seeds,” Cambridge Scholars Publishing. 2012

The global knowledge community is made up of individuals, each with their own perspective and their own actual or potential areas of research. Individuals may become so attached to their research that they become oblivious to the connections between their work and the work of others. Realizing the opportunities that exist to construct bridges between our and others’ ideas through shared research can enable humankind to grow beyond the sum of our own personal research goals, agendas, and outcomes. We should work towards a global community by focusing on ways to connect ever more people, ideas, and fields of research.

Understanding international relations, the meaning of global citizenship, and the application of the social and behavioral sciences has led to a technological-scientific revolution, creating not only a new perspective on education, but an undeniable force that now functions in parallel to it. Education is a dynamic process and is not limited to one specific science. We as human beings have the intellect to consider, understand, and create our own choices in any aspect of our lives. However, if we limit ourselves to any domain of any science we thereby limit the infinite possibilities of thought.

Due to survival strategies and the urge to be the best in our fields, we, as human beings, tend to neglect and discount the valuable contributions that our competitors could make to our own work, thereby foreclosing the possibility of a true dialog of the intellects—a dialog which children need even without knowing that they need it. Children from the ages of 4 to 16 are taught not to use the entirety of their brain, just as if society as a whole were conditioned according to the divisions the child encounters between school, family, the workplace, athletics, etc.—these being just a few examples of activities that are used to socialize people into typical patterns of behavior.

Exposure to many different domains of knowledge—such as space medicine for medical students and physicians, for example—allows individuals, especially younger students, unrestricted scope to expand their aspirations. As technology advances so do the technological pathways that allow us to communicate. Any education project which is directed towards such an end promotes global communication. If we as a global community do not share our resources, we are closing crucial portals through which the insights of the future may make themselves available to us. On the other hand, if we do succeed so to share, we may come to constitute a true global community of human beings, which may be valued as the truest success with which our endeavors could be met.

It is the eve of outer space development, but few people are aware of this. In the absence of awareness, people cannot prepare for the opportunities that will arise; and so the vast wealth likely to flow to Earth from outer space will cause ever-greater inequality and instability in our already unequal and unstable world.

This book is a call to educators to factor equality and diversity into the process of outer space development by creating a widespread movement to teach outer space development studies to all students, especially those who study social and behavioral sciences. In calling for this, I am also putting out a call to visionary thinkers to increase public awareness that outer space is already in the process of being developed. My objective is to provide a pedagogical approach aimed at mending the knowledge gap. If we fail in this objective, we are more likely than ever before to witness ever-widening gaps of social and financial inequality.

The first question that will arise as we embark on this process, of course, will be: Why Outer Space Development?

People often ask where the money will come from to develop outer space. Platinum-group metals such as iridium and osmium, and various other valuable untapped natural resources, have been discovered in abundant quantities and are likely to be mined by companies. The discovery of natural resources has sparked development projects in the past. These historical patterns of human behavior are occurring again today, as companies speed up the process of private spaceship development.

A myriad of space laws and policies are already in place to support space commercialization. Recently, the 2010 NASA Authorization Act and various other laws and policies initiated by the U.S. government have placed on the agenda plans to build advanced space transportation systems; to privatize spacecraft development; to create commercial space habitats, space stations, and space settlements; to initiate commercial space mining; to investigate spacecraft trajectory optimization for landing on near-Earth asteroids; to engage in commercial spaceport construction and interstellar-interplanetary-international telecommunications; and to launch space exploration missions to near-Earth asteroids, the Moon, Mars, and Mars’s moons. U.S. initiatives have in the past been mirrored by the international community, and we can expect to see similar patterns arising on a global scale—indeed, as this book will demonstrate, they already are.

The global community is experiencing economic recession, natural disasters, lack of opportunity, employment anxiety, failing K-12 programs, widening inequality gaps, uprisings, revolutions, revolts, unmet educational goals, and a general failure to uplift, inspire, and provide meaningful opportunities for significant portions of our population. In the United States of America, the wars in Iraq and Afghanistan failed to jumpstart the economy; the Dow Jones failed; Wall Street failed; millions of working people lost their houses to foreclosure; tent communities and homeless populations are on the increase; many people are experiencing depression, anxiety, career anxiety; we see alarming rates of people dropping out of high school and college; and there is a general lack of opportunities, along with high rates of job loss. People need something that will allow them to focus anew their talents, energies, abilities, and gifts, and use this bleak climate as an opportunity for positive change. Outer space development is emerging as an answer to this state of crisis. The question is: To whom will the benefits accrue?

Many strategic decisions have already been taken regarding space development of which the global general public is unaware. Once legal rights to space resources are granted, only those with the capital to take advantage of new laws and policies will be in a position to profit from the new space industries. Only those who are in a position to “know” about outer space development will be in position to take advantage of the opportunities. It is important to remember that the global general public has for several decades being paying the start-up costs for space exploration research, science, and technology. It’s not too late to factor in equality before an infrastructure of inequality is forever with us as we venture to establish the final frontier.

I struggled for many years to find a framework for explaining what I observed was happening with respect to outer space development. Antonio Gramsci’s insights from his many writings provided a suitable all-overthe-place/messy analysis that was able to accommodate the myriad activities occurring within the working parts of the outer space development regime. Now that the battle between Communism and Capitalism is over, perhaps it’s safe to pick out select insights from Gramsci. It is not my intent here to promote either Communism or Capitalism. Rather, I aim to promote equality as outer space is developed.

The methodological framework used in this book relies on theories and concepts of international relations, with added insights from critical analytical theory. My research addresses the need to increase public awareness regarding outer space development. It also serves as a reminder that embedded inequality, feelings of subjugation, oppression, and of being left out of important development projects tend to produce discontent, and are eventually likely to produce international conflict. Equal opportunities tend to bring peace. We must design a model suitable for peace as we develop the final frontier.

The first step toward accomplishing this goal is to expose students, teachers, administrators, civic leaders, and public officials to cutting-edge research which highlights emerging industries in the field of outer space development. Exposing students to this type of cutting-edge knowledge while it is being created is likely to have a markedly positive impact on their future careers. Preparing them now to lead in newly emerging industries at a time when outer space settlements are being constructed can serve as a powerful motivating force to enable them to want to excel in school. Budding abilities, gifts, and talents can be recruited, nourished, and developed. Space has long been known to engage and interest students, and it is time to take these possibilities to a place beyond mere fascination. It is time to take students to a new level—to actual meaningful participation in outer space development resulting in tangible career opportunities.

Imagine outer space development themes being used to motivate and reinspire high school students who have lost their interest in school. Imagine outer space studies being added to the K-12 curriculum across the globe. Imagine universities providing students the opportunity to prepare themselves to lead as newly emerging industries take flight. Imagine outer space development sparking creativity and innovation. Imagine realizable opportunities made known to people from all walks of life within each nation so that we can all get ready to meet the challenges as humankind ascends into outer space. Imagine people being retrained for new job opportunities. This vision enables us to view outer space development as a means for solving the inequality gap problem that many scholars, activists, and academics have complained about. Outer space development can serve as an incentive for world peace and equality.

During a television interview in May 2002, Channel 2 News correspondent Joe Dana asked me if it bothered me that my research might not be relevant for 200 years; in fact my research became relevant approximately two years later, in December of 2004, when the Commercial Space Launch Amendments Act was passed. This new law provided a legal framework for the newly emerging private spaceship industry.

There has been a pattern of articulation in my life. I’ve articulated phenomena that I suspected would happen, and I’ve watched as predicted phenomena occurred. People often have asked me how I knew that space tourism, space mining, private spaceships, and commercial space settlements would become newly emerging industries. This book represents my attempt to recount all of this “knowing” in the form of a methodology to assist students and scholars along their path towards understanding and explaining emerging phenomena.

Acting on intuition, I began researching space law and outer space development and imagined it becoming an emerging phenomenon. Imagine knowing or suspecting that something was going to happen, but not knowing how to prove it, or how to discuss it in meaningful ways. This need to know, prove, and discuss outer space development prompted me to pursue the Ph.D. path. On that journey, I learned how to develop a methodology for explaining and understanding social and behavioral phenomena. This was necessary, because without it I wasn’t able to talk about the topic without getting funny looks and weird reactions. It was common to think that because I had no experience in science, technology, engineering, math, or space science, that I had no right to think or speak about outer space development. However, the seeds of proof and expertise were scattered all around: I just needed to learn how to locate, compile, analyze, understand, explain, and so discuss the relevant data.

From 1998 to 2006 I read books, articles, news reports, films, documentaries, videos, podcasts, hearing transcripts, policy statements, dissertations, websites, speeches, documents, databanks, policies, laws, and international treaties. I also attended various space-related conferences and listened to relevant presentations and discussions. I observed social and behavioral phenomena, analyzed written and printed materials distributed during the conferences, and presented papers to the congresses of the International Astronautical Federation and International Institute of Space Law. Inadvertently, I became part of the outer space development process, and around 2004 I was able to observe as outer space development began to accelerate. Ideology and discourse related to outer space had always made it seem as part of a fantasy world to most people; but now a new global vision of outer space as the answer to many of the world’s problems is emerging. Commercial spaceports are being conceptualized and constructed, new types of spaceships are being designed and tested, and space colonies are being planned, designed, and discussed. In this real life scenario, the actors are drawn from a multitude of nations which are planning, testing, and evaluating mankind’s prolonged presence in outer space. I found myself right in the middle of all of this.

Here is my story.

#### Violation – they don’t defend enacting anything and are extra topical – they fiat that capitalist structures completely disappear with zero internal link to space appropriation—hold the line and ask yourself where in the 1AC it was clear that space is the lynchpin of all capitalism writ- large. At worst, they don’t get access to the impact of all capitalism, just space privatization which there is no impact ev for. All the abuse is compounded by the fact there’s no plan text or solvency adv which we’ll win link to our offense.

#### C/a 1AC paradigm issues

Topicality is a voting issue because topicality indicts the aff’s entire advocacy—comes before 1ar theory—yes new 2nr p issues—they have to prove abuse is contextual to the shell which we will—otherwise 1ar can j spam shels every time and win making them a no risk issue

## Case

#### The role of the judge and ballot should be to vote for the better debater – anything else bites judge intervention and is arbitrary and self-serving giving one side an advantage.

#### Their condemnation of privatization stands in the way of transhumanism—we should fear government control of technology, not corporations

Bailey 5 [(Ronald, the science correspondent for Reason) 5-11-2005 Trans-Human Expressway Reason https://reason.com/2005/05/11/trans-human-expressway/] TDI

Where Hughes goes wrong is in fetishizing democratic decision-making. He fails to recognize that the Enlightenment project that spawned modern liberal democracies began by trying to keep certain questions about the transcendent out of the public sphere. Questions about the ultimate meaning and destiny of humanity are private concerns. Worries about biotechnological progress must not to be used as excuses to breach the Enlightenment understanding of what belongs in the private sphere and what belongs in the public. Technologies dealing with the birth, death and the meaning of life need protection from meddling—even democratic meddling—by others who want to control them as a way to force their visions of right and wrong on the rest of us. Your fellow citizens shouldn't get to vote on whom you have sex with, what recreational drugs you ingest, what you read and watch on TV and so forth. Hughes understands that democratic authoritarianism is possible, but discounts the possibility that the majority may well vote to ban the technologies that promise a better world.

However, even as he extols social democracy as the best guarantor of our future biotechnological liberty, Hughes ignores that it is precisely those social democracies he praises, Germany, France, Sweden, and Britain, which now, not in the future, outlaw germinal choice, genetic modification, reproductive and therapeutic cloning, and stem cell research. For example, Germany, Austria and Norway ban the creation of human embryonic stem cell lines. Britain outlaws various types of pre-implantation genetic diagnosis to enable parents to choose among embryos. (Despite worrisome bioconservative agitation against this type of biotech research, in the United States, private research in these areas remains legal.)

Hughes also favors not only social democracy but global governance centered on the United Nations with the "authority to tax corporations and nations," and a "permanent standing international army," and with UN agencies "expanded into a global infrastructure of technological and industrial regulation capable of controlling the health and environmental risks from new technologies." This is the same UN that just voted for an ambiguous resolution calling on nations to ban all forms of human cloning which are incompatible with human dignity and the protection of human life. Fortunately, the resolution leaves some wiggle, but the next time the UN makes one of these democratic decisions, transhumanists may not like the result.

Furthermore, Hughes's analysis is largely free of economics—he simply ignores the processes by which wealth is created and gets busy redistributing the wealth through government health care and government subsidized eugenics. After reading Citizen Cyborg, you might come away thinking that Hughes believes that corporations exist primarily to oppress people. While acknowledging that the last US government involvement in eugenics—a project that involved sterilizing tens of thousands of people—was a bad idea, Hughes fails to underscore that it was democratically elected representatives, not corporations, who ordered women's tubes tied and men's testicles snipped.

#### The aff is bad politics—technological progress is the route to liberation, not boring Luddism.

Hughes 4 [(James, Executive Director of the Institute for Ethics and Emerging Technologies at Trinity College in Hartford, Connecticut in the United States. Citizen cyborg: Why democratic societies must respond to the redesigned human of the future. Basic Books, 2004.] TDI

Luddism is a political dead-end for progressive politics. Left-wing Luddism is boring and depressing, and has no energy to inspire people to create a new and better society. The Left was built by people inspired by millennial visions, not by people who saw only a hopeless future of futile existential protest against the juggernaut of fascist Progress. If there is to be a future for progressive politics it has to come from a rebirth of a sexy, high-tech vision of a radically democratic future, a rediscovery of the utopian imagination. As Russell Jacoby says in The End of Utopia, “in an era of political resignation and fatigue the utopian spirit remains more necessary than ever. It evokes neither prisons nor programs, but an idea of human solidarity and happiness. . . . Something is missing. A light has gone out. The world stripped of anticipation turns cold and grey.” What is missing, the light that has gone out for the Left, is the idea that the human condition can be radically transformed, that we can accomplish more than a defense of the status quo against a capitalist version of the future. To rekindle a progressive utopianism, the Next Left, the twenty-first-century Left, needs visionary projects worthy of a united transhuman world, projects like guaranteeing health, intelligence and longevity for all, building world government, eliminating work and colonizing the Solar System.

Luddism is also bad political sociology. Left Luddites inappropriately equate technologies with the power relations around those technologies, and try to fight capitalism or patriarchy or hierarchy by fighting technologies instead of by liberating the technologies for free and equal use. Technologies may make certain kinds of power more likely than others, but they do not determine power relations. Each new technology creates a new terrain for organizing and democratic struggle, new possibilities for expanded liberty and equality, or for oppression and exploitation. Technological innovation needs to be democratically regulated and guided, not fought or forbidden.

Progressives need to reembrace the Enlightenment insight that liberating each individual’s potential requires not only political liberation, but also technological liberation from nature. Marx referred to technological progress as the move from the realm of necessity to the realm of freedom. The more powerful our technology, and our political and economic empowerment, the more we are freed from the necessity of labor.

Democratic transhumanism combines this old strain of progressive optimism about reason, science and technology with a strong defense of individual liberty. The assertion of individual liberty was also a central cause of the radical democrats, and only became identified with the libertarian Right because of the rise of communism. By embracing the right of each person to control their body and mind and freely use technology to realize their fullest potential, the Next Left can decisively break all associations with authoritarianism.

A political movement based on both technological progress and individual liberty will then see ways that democratically regulated and distributed, freely exercised technology can create a more equal, empowered and united world. One way is by reducing the biological bases of social inequality. Contrary to the vacuous assertions of Francis Fukuyama and Bill McKibben that we are all biological equals, a lot of social inequality is built on a biological foundation, and enhancement technology makes it possible to redress that source of inequality. FM–2030 wrote in Optimism One that transhumans are no longer content simply striving for social, economic, and political equality. What do these rights mean so long as people are born biologically unequal? So long as some are born strong others weak, some healthy others sickly, some beautiful others ungainly, some tall others short, some brilliant others dumb—in other words so long as we do not have biological equality—all social equalities mean very little. We will settle for nothing less than [the conquest of] this basic biological inequality which is at the very root of all human inequalities.