# AT: Advantage CPS

## REVENGE

### Adv-CP Card AnswersThis card is like 1/2 way there- it still assumes an increase in temperature

#### 1. Climate change causes crop failure

Kirk 20, Karin Kirk, geologist scientist and climate change solver, 12/13/2020, “More CO2 in the atmosphere hurts key plants and crops more than it helps”, https://yaleclimateconnections.org/2020/12/more-co2-in-the-atmosphere-hurts-key-plants-and-crops-more-than-it-helps/

The basics of climate change are actually easy to understand. Human activities emit around [100 million tons](https://www.iea.org/articles/global-co2-emissions-in-2019) of CO2 every day, mostly by burning fossil fuels, which causes the atmosphere to trap more heat. As a result of that heat-trapping pollution, the atmosphere, land, and oceans have all [become warmer](https://nca2018.globalchange.gov/chapter/2/). The added heat triggers side effects like more intense rainstorms, floods, prolonged heat waves, and droughts. In turn, those unpleasant conditions lead to more frequent and severe wildfires, insect outbreaks, and crop failures. Sure, today’s plants have a bit more fertilizer from the extra CO2 in the air, but that additional CO2 causes many other problems, harming many plants and crops. Climate change is disrupting plant growth. Scientists have performed many experiments to see what happens when plants and agricultural crops receive extra CO2. When supplemental CO2 was pumped into the air around plants, they grew faster. For this reason, CO2 is sometimes piped into enclosed greenhouses to boost production. But greenhouse plants also have optimal amounts of water, excellent soil, and controlled temperatures. It’s usually a different story out in the real world. To conduct a more “real world” experiment, other studies have given plants extra CO2 plus an increase in temperature. In these conditions, many plants and crops grew poorly. In most cases, the boost from CO2 [was overwhelmed](https://www.sciencedirect.com/science/article/abs/pii/S1369526616300334?via%3Dihub) by the hotter conditions. These experiments demonstrate that the myth of CO2 fertilization is false, and peer-reviewed [reports find](https://nca2018.globalchange.gov/chapter/10#key-message-1) that major crops like wheat, rice, corn, and soybeans [will become less productive](https://www.pnas.org/content/114/35/9326) as the world heats up. Likewise, a landmark [study in 2018](https://advances.sciencemag.org/content/4/5/eaaq1012) found that growing rice in high-CO2 conditions makes it less nutritious. As a basic grain, rice plays a critical role in feeding the world’s population. The extra CO2 caused an imbalance within the crop’s chemical makeup, which resulted in rice that had lower amounts of protein, iron, zinc, and B-vitamins. “The entire elemental balance is out of whack,” explained plant physiologist Lewis Ziska, an author of the study. This result is yet another example of how the recipe of nature is being disrupted by excess CO2.

#### 2. Increasing CO2 causes ocean acidification

CRP 16, Climate Reality Project, The Climate Reality Project is an organization dedicated to solving for climate change, 6/21/2016, “GLOBAL WARMING’S EVIL TWIN: OCEAN ACIDIFCATION”, https://www.climaterealityproject.org/blog/global-warming-ocean-acidification

So, exactly what is ocean acidification? Our oceans are an incredible carbon sink — they absorb about 25 percent of the carbon dioxide humans produce every year. But this is changing sea surface chemistry dramatically: when carbon dioxide is absorbed by the ocean, it dissolves to form carbonic acid. The result, not surprisingly, is that the ocean becomes more acidic, upsetting the delicate pH balance that millions and millions of organisms rely on. Since the Industrial Revolution, our seas have become about 30 percent more acidic, a rate not observed in 300 million years. This has a wide range of consequences for marine ecosystems, as well as for the billions of people who depend on the ocean for food and survival. Ocean acidification is often called global warming’s evil twin. Oceans becoming more acidic after the Industrial Revolution is no accident. As humans burn more and more fossil fuels, the concentration of carbon dioxide in our atmosphere continues to rise, driving climate change and making both air and sea temperatures hotter and hotter. But climate change isn’t the only consequence of carbon pollution — so is ocean acidification. With more and more carbon dioxide in the atmosphere, oceans absorb more and more of it, becoming – you guessed it – more and more acidic. This is happening at an unprecedented rate and will continue unabated if we don’t stop burning dirty fossil fuels.

#### 3. Food insecurity causes war---their studies are flawed

Brinkman and Hendrix 11, Henk-Jan Brinkman and Cullen S. Hendrix, Brinkman is the chief of peace-building strategy at the UN Hendrix is a nonresident senior fellow at the Peterson Institute for International Economics, is director, 7/11, “Food Insecurity and Violent Conflict: Causes, Consequences, and Addressing the Challenges”, https://www.researchgate.net/profile/Henk-Jan-Brinkman/publication/322928073\_Food\_Insecurity\_and\_Violent\_Conflict\_Causes\_Consequences\_and\_Addressing\_the\_Challenges/links/5a7786a045851541ce5a62e4/Food-Insecurity-and-Violent-Conflict-Causes-Consequences-and-Addressing-the-Challenges.pdf

The links between food insecurity and interstate war are less direct. While countries often go to war over territory, previous research has not focused directly on access to food or productive agricultural land as a major driver of conflict (Hensel, 2000). However, wars have been waged to reduce demographic pressures arising from the scarcity of arable land, the clearest examples being the move to acquire Lebensraum (“living space”) that motivated Nazi Germany’s aggression toward Poland and Eastern Europe (Hillgruber, 1981) and Japan’s invasion of China and Indochina (Natsios and Doley, 2009). Water, for drinking and for agriculture, is also a cause of conflict (Klare, 2002). Countries that share river basins are more likely to go to war than are other countries that border one another (Toset et al., 2000; Gleditsch et al., 2006). This relationship is strongest in countries with low levels of economic development. Institutions that manage conflicts over water and monitor and enforce agreements can significantly reduce the risk of war (Postel and Wolf, 2001). Jared Diamond (1997) has argued that for centuries military power was built on agricultural production. Zhang et al. (2007) show that long-term fluctuations in the prevalence of war followed cycles of temperature change over the period 1400–1900 CE, with more war during periods of relatively cooler temperatures and thus lower agricultural productivity and greater competition for resources. Similar findings linking cooler periods with more war have been established for Europe between 1000 and 1750 CE (Tol and Wagner, 2008).

#### 4. Its not just carbon that is an impact of climate change---other gasses too

SpaceKnow 19, SpaceKnow, SpaceKnow is a website dedicated to creating an encyclopedia based on satellite data, 2/26/2019, “Will air pollution cause human extinction?”,Need an impact to this- like methane or sulfur causes XYZ bad thing/extinction

https://spaceknow.com/blog/will-air-pollution-cause-human-extinction/

“Climate change remains the single greatest threat to the livelihoods, security and wellbeing of the peoples of the Pacific,” according to the Boe Declaration of the 18 countries at the 49th Pacific Islands Forum in September 2018. It’s not only carbon emissions like methane (CH4) and carbon dioxide (CO2) that disturb the atmosphere and threaten climate change, but also high concentrations of carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), and formaldehyde (HCHO) along with various aerosol halocarbons (CFCs) that, together, have a devastating impact on the environment over time.

#### 5. Acid rain causes extinction---dinosaurs prove---(Image inserted for reference)

Wogan, 14, Tim Wogan, Tim Wogan writes about scientific discoveries because in his own words, 3/10/2014, “Dinosaur mass extinction may have been triggered by acid rain”, <https://www.chemistryworld.com/news/dinosaur-mass-extinction-may-have-been-triggered-by-acid-rain/7166.article>

Around 65 million years ago, 71–81% of all species on Earth – including land dinosaurs – were wiped out following an asteroid impact in Southeastern Mexico. Now, Japanese scientists have carried out the most realistic laboratory simulations of the impact to date and found [the extinction may have been down to acid rain, triggered by the release of sulfur trioxide](http://www.nature.com/ngeo/journal/vaop/ncurrent/full/ngeo2095.html) when the asteroid slammed into sulfur-rich rocks. A picture containing grass, outdoor, mammal

Description automatically generated (C) Shutterstock The sulfur trioxide released upon impact could have caused acid rain on a global scale Most scientists accept the principal cause of the Cretaceous–Tertiary mass extinction was a 10km asteroid hitting the Yucatan peninsula, but the precise mechanism by which this caused the extinction remains controversial. Some think that dust and aerosols thrown up by the asteroid cooled and darkened the Earth’s surface, blocking photosynthesis and causing the death of plant life and the consequent starvation of animals. Alternatively, oxidation of sulfur-rich minerals may have caused widespread acid rain that acidified the oceans, dissolving the calcareous skeletons of many plants and animals. This would explain the high proportion of sulfate minerals in sedimentary deposits from this time and the ‘fern spike’ – the plants that survived the catastrophe best and recolonised the Earth quickest were ferns, which grow well in acidic soil. But the usual product of sulfur oxidation is sulfur dioxide. This would have stayed in the atmosphere for several months as it converted slowly to sulfur trioxide before dissolving in water to form sulfuric acid. Rainwater would therefore have been only weakly acidic, and the drop in oceanic pH quite small.

#### 6. Pesticides are good---they solve all food issues

Fruitgrowers 19, fruitgrowers, fruitgrowers is a website dedicated to describing farmers and the processes they use when growing crops, 5/9/2019, “The Benefits of Pesticide Use in Agriculture”, https://fruitgrowers.com/the-benefits-of-pesticide-use-in-agriculture/#:~:text=More%20specifically%2C%20pesticides%20can%20keep,of%20the%20use%20of%20pesticides.

Plants face numerous hazards that threaten to kill them off every day. In fact, there are more than 30,000 species of weeds alone, all of which can stunt plant growth and even damage entire crops. In addition, there are more than 10,000 types of insects that eat plants. Then there are the threats the plants have to face once they are pulled from the fields and put into storage–since insects, rodents and mold can all cause damage to them. Obviously, just allowing the plants to die–unprotected by pesticides–isn’t an option, as this decision would have far-reaching consequences. Not only would the farmers lose a lot money and time, but the world would lose much of its food. Considering that [about 795 million people](https://www.foodaidfoundation.org/world-hunger-statistics.html) globally don’t have enough food to eat, this would be unconscionable. On top of that, what little food we’d have left would be too expensive for most people to afford, meaning few people would be able to buy fresh fruits, vegetables and grains year-round–leading to a health crisis. Clearly, pesticides are necessary for crops!

#### 7. Nanotech solves the environment

NNI ND, National Nanotechnology Institute, The Nanotech initiative is run by the US government and describe show the nanotech is being used and its potential uses, ND, “[National Nanotechnology Initiative](file:///C:\Users\jreub\Downloads\National%20Nanotechnology%20Initiative)”, <https://www.nano.gov/about-nanotechnology/applications-nanotechnology#:~:text=Nanotechnology%20has%20greatly%20contributed%20to,and%20larger%20amounts%20of%20information>.

In addition to the ways that nanotechnology can help improve energy efficiency (see the section above), there are also many ways that it can help detect and clean up environmental contaminants:

Nanotechnology could help meet the need for affordable, clean drinking water through rapid, low-cost detection and treatment of impurities in water.

Engineers have developed a thin film membrane with nanopores for energy-efficient desalination. This molybdenum disulphide (MoS2) membrane filtered two to five times more water than current conventional filters.

Nanoparticles are being developed to clean industrial water pollutants in ground water through chemical reactions that render the pollutants harmless. This process would cost less than methods that require pumping the water out of the ground for treatment.

Researchers have developed a nanofabric "paper towel" woven from tiny wires of potassium manganese oxide that can absorb 20 times its weight in oil for cleanup applications. Researchers have also placed magnetic water-repellent nanoparticles in oil spills and used magnets to mechanically remove the oil from the water.

Many airplane cabin and other types of air filters are nanotechnology-based filters that allow “mechanical filtration,” in which the fiber material creates nanoscale pores that trap particles larger than the size of the pores. The filters also may contain charcoal layers that remove odors.

Nanotechnology-enabled sensors and solutions are now able to detect and identify chemical or biological agents in the air and soil with much higher sensitivity than ever before. Researchers are investigating particles such as self-assembled monolayers on mesoporous supports (SAMMS™), dendrimers, and carbon nanotubes to determine how to apply their unique chemical and physical properties for various kinds of toxic site remediation. Another sensor has been developed by NASA as a smartphone extension that firefighters can use to monitor air quality around fir

#### 8. Decline causes war---1930s

Library of Congress ND, Library of Congress, The Library of Congress keeps important texts for future reference, ND “U.S. History Primary Source Timeline” , https://www.loc.gov/classroom-materials/united-states-history-primary-source-timeline/great-depression-and-world-war-ii-1929-1945/overview/

The economic troubles of the 1930s were worldwide in scope and effect. Economic instability led to political instability in many parts of the world. Political chaos, in turn, gave rise to dictatorial regimes such as Adolf Hitler's in Germany and the military's in Japan. (Totalitarian regimes in the Soviet Union and Italy predated the depression.) These regimes pushed the world ever-closer to war in the 1930s. When world war finally broke out in both Europe and Asia, the United States tried to avoid being drawn into the conflict. But so powerful and influential a nation as the United States could scarcely avoid involvement for long.

#### 9. AI is good---it can’t do anything badprove

Pierce 22, RJ Pierce, RJ Pierce is a writer for the Tech Times, 2/17/2022, “AI Will NOT Take Over The World And Drive Humanity To Extinction--Here's Why”, <https://www.techtimes.com/articles/271938/20220217/why-ai-wont-take-over-the-world.htm>

In an article by [The Conversation](https://theconversation.com/worried-about-ai-taking-over-the-world-you-may-be-making-some-rather-unscientific-assumptions-103561), they put this specific argument forward. A machine can always "learn" if it is fed data about the task it's meant to achieve. Sure, it can process information much faster than a human can (and perhaps even come up with solutions no person can ever think of), but it doesn't make the machine smarter than a human at all. Here's one situation where machine learning is still way behind human learning. Take a toddler, for instance. That child can learn how to do a specific task within seconds just by watching somebody do it. A machine can only learn something if it is fed an extremely massive amount of data, which it uses when performing trial-and-error according to [Synthesys](https://synthesys.io/). 'Super-Intelligent' Machines Are NOT The Problem At the end of the day, it still falls on the human element of the issue. You should be far more scared of how humans use artificial intelligence, and not the AI itself. This is considering the technology's capability to draw conclusions from whatever data is being fed to it and how it can only focus on one task at a time. (Photo : Getty Images ) In other words, an AI trained to do something good, [like identifying climate change tipping points](https://www.techtimes.com/articles/265748/20210923/artificial-intelligence-to-identify-climate-tipping-points.htm), is not dangerous at all. But a machine which is trained in something bad, like warfare, can be extremely perilous. So don't be scared of robots taking over the world, because people-not the perceived dangers of AI-will still be the most critical aspect of civilization's downfall.

#### 10. AI solves biodiversity loss

Snow 19, Jackie Snow, Jackie Snow MIT Technology Review’s associate editor for artificial intelligence and author of the Algorithm, 3/20/2019, “Can Artificial Intelligence Help Save the Natural World?”, <https://www.pbs.org/wgbh/nova/author/jackie-snow/>

The name TrailGuard comes from the fact that despite the enormous areas some reserves cover, there are still choke points poachers have to travel through, allowing cameras to be setup up strategically in those places. To be helpful, the cameras have to work autonomously, be low-powered, and send photos in real time. An earlier iteration of the TrailGuard camera didn’t have AI built in and sent back photos that 75 percent of the time had no humans in them. The cameras would be triggered by a cloud moving in front of the sun, swaying grass, or animals going by. These false triggers eat up precious battery life and become a nuisance to the rangers who have to drop what they are doing and look through images. Plus, changing batteries every few weeks puts people in danger and potentially gives away where the cameras are set up. Adding AI that detects whether a person is in the photo reduces the error rate to a fraction of previous attempts—and it improves its accuracy with time. Capturing and sending fewer images means TrailGuard cameras now last up to 18 months without having to swap the batteries out. The AI behind the smart cameras has been used in urban settings for years but hasn’t made an appearance to stop poaching until now. “It’s never been used in national parks where we need it the most," says Eric Dinerstein, the Director of Biodiversity and Wildlife at RESOLVE, a conservation nonprofit and a partner on the TrailGuard AI project. For cash-strapped national parks trying to stop well-funded poaching forces that can include anything from machine guns to [helicopters](https://www.africanparks.org/newsroom/press-releases/update-garamba-national-parks-poaching-crisis), any help is appreciated. “This is a huge advantage for conservation,” says Alex Dehgan, the CEO of Conservation X Labs, a nonprofit looking to end human-driven extinctions with technology.

#### 11. AI solves ag

Snow 19, Jackie Snow, Jackie Snow MIT Technology Review’s associate editor for artificial intelligence and author of the Algorithm, 2/19/2019, “Does AI Hold the Key to a New and Improved “Green Revolution” in Agriculture?”, <https://www.pbs.org/wgbh/nova/article/does-ai-hold-key-to-new-green-revolution-in-agriculture/>

By 2050, we’ll need to feed nine billion people with about a third less arable land than [we had in the 1970s](https://www.theguardian.com/environment/2015/dec/02/arable-land-soil-food-security-shortage), experts estimate. Farmers will need all the help they can get, including insights gleaned from artificial intelligence, or AI. Developed carefully—and with the people who will be using it taken into account—AI can be part of the solution to feeding a growing world, according to the [Refresh report](https://refreshfoodandtech.com/), a document put together by researchers from Google, university professors, nonprofits, and farmers. And as an added bonus, some of the unsustainable practices developed over the past 70 years could be reversed with more efficient, AI-driven technology. The Green Revolution was a set of advances that started in the 1950s in areas like high-yield crops, synthetic fertilizers, and irrigation technology that greatly increased food production, especially in developing countries—saving an [estimated one billion people](https://www.theatlantic.com/magazine/archive/1997/01/forgotten-benefactor-of-humanity/306101/) from starvation. But it left in its wake a culture of pesticides, reduced agricultural biodiversity, and overuse of chemical fertilizers that deplete the soil and poison waterways. “It was never meant to be used in the long term,” says Danielle Nierenberg, the president of Food Tank, a non-profit working to build a better food system that also worked on the Refresh document. Farmers were supposed to transition back to organic, Nierenberg adds: It just never happened because increased yields generated by industrial-scale farming put pressure on smaller farms to follow suit. One of the main ways AI could help agriculture transition out of practices forged in the Green Revolution and into a more sustainable future is with precision farming. Until now, there hasn’t been an easy way for farmers to learn from historical or real-time data. But AI-powered programs can combine data on weather patterns, crop yields, market prices, and more to guide farmers to planting at the right time, adding the appropriate level of fertilizers, and harvesting at peak ripeness.

#### 12. Growth solves all problemsThis card is ok but the warrant isn't really explained- I think the below bailey card is better, but again be warray of quals- bailey is a climate denier so there are lots of indicts that say hes on the take

Integrity 12, Integrity Management Consulting, Integrity is a wesbite, 12/6/2012, “A Simple Philosophy: Growth Solves All Problems” , https://integritymc.com/a-simple-philosophy-growth-solves-all-problems/

We believe a simple philosophy that growth solves all problems.  I say this knowing how difficult the current economy is and the obstacles the Federal government faces in funding its initiatives.  Yet, the needs of the government are not going away, and those companies positioned best to fill those needs will continue to do well. By encouraging growth we create opportunity internally and have more avenues to overcome challenges.  The up and coming analyst has an opportunity for a leadership position on the next project that we win.  The person whose project is ending has opportunity to be rolled onto a new and more exciting engagement. Many of these opportunities cease when the growth is not present.

#### 13. Growth solves every existential risk---abandoning it is disastrous

Bailey 15, Ronald Bailey, Ronald Bailey is an American Libertarian Scientist Writer, 11/30/2015, “Fast Growth Can Solve Climate Change”, <https://www.scientificamerican.com/article/fast-growth-can-solve-climate-change/#:~:text=Greater%20wealth%20also%20means%20higher,ameliorate%20man%2Dmade%20climate%20change>.

As representatives from 196 countries gather in Paris this December to negotiate a universal climate treaty, they should keep in mind that richer is more climate-friendly, especially for developing countries. Why? Because faster growth means higher incomes, which correlate with lower population growth. Greater wealth also means higher agricultural productivity, freeing up land for forests to grow as well as speedier progress toward developing and deploying cheaper non–fossil fuel energy technologies. These trends can act synergistically to ameliorate man-made climate change. As economic growth increases incomes, [fertility tends to fall](http://www.bit.ly/K8QAde) toward, and even below, the replacement rate of 2.1 children per woman. Some [demographers argue](http://www.nytimes.com/2013/09/21/business/uns-forecast-of-population-growth-may-be-too-high.html) that world population could peak at around nine billion by the middle of this century and then begin declining. Lower population growth means less demand for energy and other resources than there would otherwise have been. According to the latest [World Bank data](http://data.worldbank.org/indicator/SP.DYN.TFRT.IN) on 212 national jurisdictions, 85 countries are currently at or below the replacement rate, including Japan, China, Russia, Brazil the U.S. and all of Europe. Total fertility rates in large developing countries like India, Bangladesh and Mexico are also near the replacement rate. Economic development initially worsens environmental externalities such as deforestation and pollution, including the accumulation of climate-damaging greenhouse gases in the atmosphere and oceans. But long term, pollution and deforestation can [start to improve](http://ceser.in/ceserp/index.php/ijees/article/view/1935) as economic growth boosts the incomes of once poor people. The wealthier people become the more they [demand and get improved environmental quality](http://www.nber.org/papers/w4634) via regulation and market mechanisms that promote cleaner and less resource-intensive processes and technologies. For example, since 1980 carbon monoxide, sulfur dioxide and nitrogen dioxide air [pollution](http://www3.epa.gov/airtrends/aqtrends.html) is down 85, 80 and 60 percent, respectively, even as real U.S. GDP more than doubled. Data from the Food and Agriculture Organization of the United Nations’ latest global forest trends report shows that [deforestation halts](http://www.sciencedirect.com/science/article/pii/S0378112715003400) and reverses when per capita incomes reach a threshold of around $4,200. Economies increasingly grow by squeezing more value out of less stuff. The Worldwatch Institute [reports](https://books.google.com/books?id=Bkw_CgAAQBAJ&pg=PA23&lpg=PA23&dq=global+energy+intensity+trends&source=bl&ots=ll27V287NR&sig=CTznO1lYkCiYZiWOI3jB3HXFPrA&hl=en&sa=X&ved=0CFgQ6AEwCWoVChMI3Km_w7vZyAIVBl0eCh3-fgwY#v=onepage&q=global%20energy%20intensity%20trends&f=false) that U.S. carbon intensity (the amount of CO2 emitted to produce a dollar of GDP) has fallen 60 percent since 1990.

#### 14. Degrowth is not the solution to the climate crisis---it takes to long and climate change is already here

Robert Polin 21, distinguished professor of economics and co-director of the Political Economy Research Institute at the University of Massachusetts-Amherst, 7/3/21, “Degrowth Policies Cannot Avert Climate Crisis. We Need a Green New Deal,” <https://truthout.org/articles/degrowth-policies-cannot-avert-climate-crisis-we-need-a-green-new-deal/>

To the extent that a sharp reduction in economic activity is a positive goal, “degrowth” requires overturning the current world order. But do we have the luxury to wait for a new world order while the catastrophic impacts of global warming are already upon us and getting worse with each passing decade? World-renowned progressive economist Robert Pollin, distinguished professor of economics and co-director of the Political Economy Research Institute at the University of Massachusetts-Amherst, is one of the leading proponents of a global Green New Deal. In this interview, he addresses the degrowth vs. Green New Deal debate, looking at how economies can grow while still advancing a viable climate stabilization project as long as the growth process is absolutely decoupled from fossil fuel consumption. C.J. Polychroniou: Since the idea of a Green New Deal entered into public consciousness, the debate about climate emergency is becoming increasingly polarized between those advocating “green growth” and those arguing in support of “degrowth.” What exactly does “degrowth” mean, and is this at the end of the day an economic or an ideological debate? Robert Pollin: Let me first say that I don’t think that the debate on the climate emergency between advocates of degrowth versus the Green New Deal is becoming increasingly polarized, certainly not as a broad generalization. Rather, as an advocate of the Green New Deal and critic of degrowth, I would still say that there are large areas of agreement along with some significant differences. For example, I agree that uncontrolled economic growth produces serious environmental damage along with increases in the supply of goods and services that households, businesses and governments consume. I also agree that a significant share of what is produced and consumed in the current global capitalist economy is wasteful, especially much, if not most, of what high-income people throughout the world consume. It is also obvious that growth per se as an economic category makes no reference to the distribution of the costs and benefits of an expanding economy. I think it is good to keep in mind both the areas of agreement as well as the differences. But what about definitions: What do we actually mean by the Green New Deal and degrowth? Starting with the Green New Deal: The Intergovernmental Panel on Climate Change (IPCC) estimates that for the global economy to move onto a viable climate stabilization path, global emissions of carbon dioxide (CO2) will have to fall by about 45 percent as of 2030 and reach net zero emissions by 2050. As such, by my definition, the core of the global Green New Deal is to advance a global project to hit these IPCC targets, and to accomplish this in a way that also expands decent job opportunities and raises mass living standards for working people and the poor throughout the world. The single most important project within the Green New Deal entails phasing out the consumption of oil, coal and natural gas to produce energy, since burning fossil fuels is responsible for about 70 – 75 percent of all global CO2 emissions. We then have to build an entirely new global energy infrastructure, the centerpieces of which are high efficiency and clean renewable energy sources — primarily solar and wind power. The investments required to dramatically increase energy efficiency standards and to equally dramatically expand the global supply of clean energy sources will also be a huge source of new job creation, in all regions of the world. These are the basics of the Green New Deal as I see it. It is that simple in concept, while also providing specific pathways for achieving its overarching goals. “Degrowth” cannot come close, on its own, to delivering a 45-percent emissions cut by 2030, much less a zero emissions global economy by 2050. Now on degrowth: Since I am not a supporter, it would be unfair for me to be the one explaining what it means. So here is how some of the leading degrowth proponents themselves describe the concept and movement. For example, in a 2015 edited volume titled, [Degrowth: A Vocabulary for a New Era](https://vocabulary.degrowth.org/), the volume’s editors Giacomo D’Alisa, Federico Demaria and Giorgos Kallis write that, “The foundational theses of degrowth are that growth is uneconomic and unjust, that it is ecologically unsustainable and that it will never be enough.” More recently, a 2021 paper by Riccardo Mastini, Giorgos Kallis and Jason Hickel, titled, “[A Green New Deal without Growth?](https://www.sciencedirect.com/science/article/abs/pii/S0921800919319615),” write that “ecological economists have defined degrowth as an equitable downscaling of throughput, with a concomitant securing of wellbeing.” It is instructive here that, in this 2021 paper, Mastini, Kallis and Hickel do also acknowledge that degrowth has not advanced into developing a specific set of economic programs, writing that “degrowth is not a political platform, but rather an ‘umbrella concept’ that brings together a wide variety of ideas and social struggles.” This acknowledgement reflects, in my view, a major ongoing weakness with the degrowth literature, which is that, in concerning itself primarily with very broad themes, it actually gives almost no detailed attention to developing an effective climate stabilization project, or any other specific ecological project. Indeed, this deficiency was reflected in a 2017 interview with the leading ecological economist Herman Daly himself, without question a major intellectual progenitor of the degrowth movement. Daly says in the interview that he is “favorably inclined” toward degrowth, but nevertheless demurs that he is “still waiting for them to get beyond the slogan and develop something a little more concrete.” This lack of specificity among degrowth proponents leads to further problems. For example, degrowth supporters, such as Mastini et al. in their 2021 paper, are clear that they support the transformation of the global energy system along the lines that I have described above, from our current fossil fuel-dominant system to one whose core features are high efficiency and clean renewable energy sources. Yet in fact, building out this new energy system will obviously entail massive growth of the global clean energy system, just as it will equally entail the phasing out — or degrowth, if you prefer — of the global fossil fuel energy system. In my view, it is more useful to be specific about which sectors of the global economy will certainly need to grow — e.g., the clean energy system — while others, like fossil fuels, contract, as opposed to invoking sweeping generalities about degrowth. We can extend this point. For example, I am sure degrowth proponents would favor major expansions in access to public education, universal health care, high-quality affordable housing, regenerative agriculture and the share of the Earth’s surface covered by forests. In focusing on some critical specifics, I would also add that there is no way that a general project of degrowth can put the global economy onto a viable climate stabilization path. With the COVID-19 recession, the global economy just went through a powerful natural experiment to demonstrate this point. That is, during the pandemic in 2020, the global economy contracted by 3.5 percent, which the International Monetary Fund [described as](https://www.imf.org/en/Publications/WEO/Issues/2021/01/26/2021-world-economic-outlook-update) a “severe collapse … that has had acute adverse impacts on women, youth, the poor, the informally employed and those who work in contact-intensive sectors.” In other words, the pandemic produced an intense period of global “degrowth.” This recession did also produce a decline in emissions, as entire sections of the global economy were forced into lockdown mode. But the emissions decline amounted to only [6.4 percent over 2020](https://www.nature.com/articles/d41586-021-00090-3). Remember, the IPCC tells us that we need to cut emissions by 45 percent as of 2030 and be at zero emissions by 2050. If the COVID recession only yields a 6.4 percent emissions reduction despite the enormous levels of economic pain inflicted, clearly “degrowth” cannot come close, on its own, to delivering a 45-percent emissions cut by 2030, much less a zero emissions global economy by 2050. Economies can still continue to grow while still advancing a viable climate stabilization project as long as the growth process is absolutely decoupled from fossil fuel consumption. Those who see the Green New Deal not only as the most effective strategy to tackle global warming but also as an engine growth, such as yourself, rely on the concept of “decoupling,” by which is meant the absolute decoupling of economic growth from carbon emissions. However, degrowth advocates seem to be arguing that there is no empirical evidence for absolute “decoupling,” and that it’s highly unlikely that it will ever happen. How do you respond to such claims? Let’s recognize, to begin with, that people are still going to need to consume energy to light, heat and cool buildings; to power cars, buses, trains and airplanes; and to operate computers and industrial machinery, among other uses. As one critical example here, in low-income economies, delivering adequate supplies of affordable electricity becomes transformative for people’s lives, enabling them, for example, to adequately light their homes at night rather than relying on kerosene lanterns. As such, it should be our goal to greatly expand access to electricity to low-income communities throughout the world, while we are also driving down CO2 emissions to zero. The solution is for energy consumption and economic activity more generally to be absolutely decoupled from the generation of CO2 emissions. That is, the consumption of fossil fuel energy will need to fall steadily and dramatically in absolute terms, even while people will still be able to consume energy resources to meet their various demands. The more modest goal of relative decoupling — through which fossil fuel energy consumption and CO2 emissions continue to increase, but at a slower rate than overall economic activity — is therefore not a solution. Economies can still continue to grow while still advancing a viable climate stabilization project as long as the growth process is absolutely decoupled from fossil fuel consumption. Is absolute decoupling impossible to accomplish within the context of economic growth? To date, we have seen some modest evidence — and I do stress the evidence is modest — of absolute decoupling taking place. For example, between 2000 and 2014, [21 countries](https://www.wri.org/insights/roads-decoupling-21-countries-are-reducing-carbon-emissions-while-growing-gdp), including the U.S., Germany, the U.K., Spain and Sweden, all managed to absolutely decouple GDP growth from CO2 emissions — i.e., GDP in these countries expanded over this 14-year period while CO2 emissions fell. This is a positive development, but only a small step in the right direction. The way to deliver a much more rapid pattern of absolute decoupling is, of course, to build out the global clean energy economy, and to do so quickly. This is a feasible project. By [my own estimates](https://www.versobooks.com/books/3239-climate-crisis-and-the-global-green-new-deal), it requires that the global economy spend approximately 2.5 percent of global GDP per year on investments in energy efficiency and clean renewable energy supplies, while the global economy grows at an average rate of about 3 percent per year between now and 2050. The [International Renewable Energy Agency](https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2021/March/IRENA_World_Energy_Transitions_Outlook_2021.pdf) and [International Energy Agency](https://www.iea.org/reports/net-zero-by-2050) recently published studies that reached similar results for the global economy. Focused on the U.S. economy, the energy economists Jim Williams and Ryan Jones also reached a similar result, as part of the [Zero Carbon Action Plan](https://www.unsdsn.org/Zero-Carbon-Action-Plan) project. From this and related evidence, I conclude that absolute decoupling is certainly a feasible, though also obviously a hugely challenging, project. But we can’t just talk about it, pro or con. We have to make the investments, at 2.5 percent of global GDP per year or thereabouts, every year until 2050, to build the global clean energy economy. If we do that, absolute decoupling will happen. If we don’t make those investments, then of course, absolute decoupling becomes an impossibility. Various ecologically minded activists are also arguing that the Green New Deal relies on the use of massive energy resources, including extensive use of the steel industry, in order to make the transition to a clean, renewable and net-zero emissions economy, and that what is really needed instead is a green revolution of the mind, whereby zero energy living is the ultimate goal. My question is this: Can the Green New Deal deliver 100 percent clean energy? There are several industries in which energy is consumed intensively. They include steel, cement and paper, along with, obviously, all forms of transportation. But note that these industries are energy intensive. They are not necessarily fossil fuel energy intensive. If we succeed, through the Green New Deal, in increasing the efficiency at which these industries consume energy and we also deliver abundant supplies of clean renewable energy, then the problems of dealing with energy-intensive industries can be solved. It’s true that there will be some specific areas which will present more difficult challenges. For example, some parts of steel production rely on furnaces that are operating at very high temperatures. Reaching these high temperatures are, to date, difficult to achieve through electricity as opposed to burning coal in a furnace. This problem will need to be solved over time. One likely solution could be to rely on laser technology through which the required high temperatures can be reached with electricity, with the electricity, in turn, being produced through renewable energy. For the first time, 62 percent of all renewable energy sources produced energy at lower costs than the cheapest sources of fossil fuel energy.

#### 15. Proponents of degrowth are wrong---growth decreases pollution, it doesn’t increase it

Andrew McAfee 20, a principal research scientist at MIT and the author of More From Less: The Surprising Story of How We Learned to Prosper Using Fewer Resources—and What Happens Next, 10/6/20, <https://www.wired.com/story/opinion-why-degrowth-is-the-worst-idea-on-the-planet/>

For half a century, we've been told that we had to embrace degrowth in order to save our planet. We haven't listened. Around the world, human populations and economies have continued to grow at rates that are virtually unprecedented in the history of our species. Over that same span, an unexpected and encouraging pattern has emerged: The world's richest countries have learned how to reduce their footprint on Earth. They're polluting less, using less land and water, consuming smaller amounts of important natural resources, and doing better in many other ways. Some of these trends are also now visible in less affluent countries. However, many in the degrowth movement seem to have trouble taking yes for an answer. The claims I just made are widely resisted or ignored. Some say they’ve been debunked. Of course, debate over empirical claims like these is normal and healthy. Our impact on our planet is hugely important. But something less healthy is at work here. As Upton Sinclair put it, “It is difficult to get a man to understand something when his salary depends upon his not understanding it.” Some voices in the conversation about the environment seem wedded to the idea that degrowth is necessary, and they are unwilling or unable to walk away from it, no matter the evidence. But evidence remains a powerful way to persuade the persuadable. The one thing everyone agrees on is that the last 50 years have been a period of growth, not degrowth. In fact, growth has never been faster, except for the 25-year rebuilding period after World War II. The population and economic growth rates of the past half-century are remarkably fast by historical standards. Between 1800 and 1945, for example, the world’s economy grew less than 1.5 percent per year, on average. Between 1970 and 2019, that average increased to almost 3.5 percent. It's natural to assume that, as this growth continued, every nation’s planetary footprint would only increase. After all, as people become more numerous and prosperous they consume more, and producing all the goods and services they consume uses up resources, takes over ecosystems, and generates pollution. The logic seems ironclad that our gains have to be the environment’s losses. In some important areas, however, a very different pattern emerged after 1970: Growth continued, but environmental harm decreased. This decoupling occurred first with pollution, and first in the rich world. In the US, for example, aggregate levels of six common air pollutants have declined by 77 percent, even as gross domestic product increased by 285 percent and population by 60 percent. In the UK, annual tonnage of particulate emissions dropped by more than 75 percent between 1970 and 2016, and of the main polluting chemicals by about 85 percent. Similar gains are common across the highest-income countries. How were these reductions achieved? The two possibilities are cleanup and offshoring. Either rich countries figured out how to reduce their “air pollution per dollar” so much that overall pollution went down even as their economies grew, or they sent so much of their dirty production overseas that the air at home got cleaner. The first of these paths reduces the total burden of human-caused pollution; the second just rearranges it. The evidence is overwhelming that rich countries cleaned up their air pollution much more than they outsourced it. For one, a great deal of air pollution comes from highway vehicles and power plants, and rich countries haven’t outsourced driving and generating electricity to low-income ones. In fact, high-income countries haven't even offshored most of their industry. The US and UK both manufacture more than they did 50 years ago (at least until the Covid-19 pandemic sharply reduced output), and Germany has been a net exporter since 2000 while continuing to drive down air pollution. The rest of the world has been exporting its manufacturing pollution to Germany (to use degrowthers’ phrasing), yet Germans are breathing cleaner air than they were 20 years ago. Rich countries have reduced their air pollution not by embracing degrowth or offshoring, but instead by enacting and enforcing smart regulation. As economists Joseph Shapiro and Reed Walker concluded in a 2018 study about the US, “changes in environmental regulation, rather than changes in productivity and trade, account for most of the emissions reductions.” Research about the cleanup of US waters also concludes that well-designed and enforced regulations have successfully reduced pollution. It is true that the US and other rich countries now import lots of products from China and other nations with higher pollution levels. But if there were no international trade at all, and rich countries had to rely exclusively on their domestic industries to make everything they consume, they’d still have much cleaner air and water than they did 50 years ago. As a 2004 Advances in Economic Analysis and Policy study summarized: “We find no evidence that domestic production of pollution-intensive goods in the US is being replaced by imports from overseas.” The rich world’s success at decoupling growth from pollution is an inconvenient fact for degrowthers. Even more inconvenient is China's recent success at doing the same. China’s export-led, manufacturing-heavy economy has been growing at meteoric rates, but between 2013 and 2017 air pollution in densely populated areas declined by more than 30 percent. Here again the government mandated and monitored pollution declines and so decoupled growth from an important category of environmental harm. China's progress with air pollution is heartening, but it's not surprising to most economists. It's a clear example of the environmental Kuznets curve (EKC) in action. Named for the economist Simon Kuznets, EKC posits a relationship between a country's affluence and the condition of its environment. As GDP per capita rises from an initial low level, so too does environmental damage; but as affluence continues to increase, the harms level off and then start to decline. The EKC is clearly visible in the pollution histories of today's rich countries, and it's now taking shape in China and elsewhere. Also consider air pollution death rates around the world. As the invaluable website Our World in Data puts it, “Rates have typically fallen across high-income countries: almost everywhere in Europe, but also in Canada, the United States, Australia, New Zealand, Japan, Israel and South Korea and other countries. But rates have also fallen across upper-middle income countries too, including China and Brazil. In low and lower-middle income countries, rates have increased over this period.” The EKC is a direct refutation of a core idea of degrowth: that environmental harms must always rise as populations and economies do. It's not surprising that today's degrowth advocates rarely discuss the large reductions in air and water pollution that have accompanied higher prosperity in so many places around the world. Instead, degrowthers now focus heavily on one kind of pollution: greenhouse gas emissions. The claims made are familiar ones: that any apparent reductions in greenhouse gas emissions in rich countries are due to offshoring rather than actual decarbonization. Thanks to the Global Carbon Project, we can see if this is the case. GCP has calculated “consumption-based emissions” for many countries going back to 1990, taking into account imports and exports, yielding the greenhouse gas emissions embodied in all the goods and services consumed in each country each year. For several of the world's richest countries, including Germany, Italy, France, the UK, and the US, graphs of consumption-based carbon emissions follow the familiar EKC. The US, for example, has 22reduced its total (not per capita) consumption-based CO2 emissions by more than 13 percent since 2007. These reductions are not mainly due to enhanced regulation. Instead, they've come about because of a combination of tech progress and market forces. Solar and wind power have become much cheaper in recent years and have displaced coal for electricity generation. Natural gas, which when burned emits fewer greenhouse gases per unit of energy than does coal (even after taking methane leakage into account), has also become much cheaper and more abundant in the US as a result of the fracking revolution. To ensure that these greenhouse gas declines continue to spread and accelerate, we should apply the lessons we've learned from previous pollution reduction success. In particular, we should make it expensive to emit carbon, then watch the emitters work hard to reduce this expense. The best way to do this is with a carbon dividend, which is a tax on carbon emissions where the revenues are not kept by the government but instead are rebated to people as a dividend. William Nordhaus won the 2018 Nobel Prize in economics in part for his work on the carbon dividend, and an open letter advocating its implementation in the US has been signed by more than 3,500 economists. It's an idea whose time has come. Tech progress and price pressure aren't just leading to the demise of coal. They're also causing us to exploit the planet less in many other important ways, even as growth continues. In other words, EKCs are not just about pollution any more. A good place to start examining this broad phenomenon of getting more from less is US agriculture, where we have decades of data on both outputs—crop tonnage—and the key inputs of cropland, water, and fertilizer. Domestic crop tonnage has risen steadily over the years and in 2015 was more than 55 percent higher than in 1980. Over that same period, though, total water used for irrigation declined by 18 percent, total cropland by more than 7 percent. That is, over that 35-year period, US crop agriculture increased its output by more than half while giving an area of land larger than Indiana back to nature and eventually using a Lake Champlain less water each year. This was not accomplished by increasing fertilizer use; total US fertilizer consumption in 2014 (the most recent year for which data are available) was within 2 percent of its 1980 level. The three main fertilizers of nitrogen, potassium, and phosphorus (NKP) are an interesting case study. Their total US consumption (once other uses in addition to agriculture are taken into account) has declined by 23 percent since 1980, according to the United States Geological Survey. Yet some within the degrowth movement find ways to argue that these declines are also an illusion. These materials thus serve to clearly illustrate the differences in methodology, evidence, and worldview between ecomodernists like myself and degrowthers. The USGS tracks annual domestic production, imports, and exports of NKP and uses these figures to calculate “apparent consumption” each year. Consumption of each of the three resources has declined by 16 percent or more from their peaks, which occurred no later than 1998. This seems like a clear and convincing example of dematerialization—getting more output from fewer material inputs. As I argue in my book More From Less, dematerialization doesn’t happen for any complicated or idiosyncratic reason. It happens because resources cost money that companies would rather not spend, and tech progress keeps opening up new ways to produce more output (like crops) while spending less on material inputs (like fertilizers). Modern digital technologies are so good at helping producers get more from less that they're now allowing the US and other technologically sophisticated countries to use less in total of important materials like NKP. Forest products provide another clear example of dematerialization in the US. Total annual domestic consumption of paper and paperboard peaked in 1999, and of timber in 2002. Both totals have since declined by more than 20 percent. Could these be mirages caused by offshoring that’s not properly captured? That’s highly unlikely, as the country is now onshoring more than it’s offshoring. The US has been a net exporter of forest products since 2009 and is now the world’s largest exporter of these materials. Is the US economy also dematerializing its use of metals? Probably, but it’s hard to say for sure. The USGS tallies do show dematerialization in steel, aluminum, copper, and other important metals. But these figures don’t include the metals contained in imports of finished goods like cars and computers. America is a net importer of manufactured goods, so it could be that we’re using more metal year after year, but that much of this consumption is “hidden” from official statistics because of imports of heavy, complex products. However, my estimates indicate that this is extremely unlikely and that the country is in fact now reducing its overall consumption of metals.

#### 16. Aliens will come in peace OR they don’t last long enough

Stuart 18, S.C. Stuart, S.C. Stuart Award winning digital strategist and tech commentator, 9/30/2018, “Here's Why Aliens Will Probably Come in Peace”, https://www.pcmag.com/news/heres-why-aliens-will-probably-come-in-peace

Frank defined a "technological civilization" as one which had developed radio technology and the ability to manipulate the electromagnetic spectrum. Then he also calculated how long those technological civilizations might last, a sobering thought. Indeed. This is the last variable in the Drake equation—the "L" variable. It is my favorite and the most provocative element of the equation, in my opinion. Humans are [now] about a hundred years into the technological stage of evolution, so we are very early in the time horizon of the L variable, which Frank suggested might be 10,000 years. Considering the challenges humanity faces in the next 100 years—let alone the next 10,000—Frank's prediction may be optimistic!

#### 17. Anti-growth movements fail---crackdown, and movements fail specifically in the modern era

Toney, 13, Simon Toney, University of Sydney, Department of Government and International Relations, Anti-Capitalism: A Beginner’s Guide, The perils of ‘movementism’, pg. 142-144, -FT

Many of these marches, protests and initiatives were very successful on their own terms. This is to say that they provided a focal point for activists who might not have had wider contact with concerned citizens or groups who shared some if not all of their aims and objectives. The protests were mobilising occasions. They enabled people to learn and share experiences in an intense environment which heightened the sense of a great deal being at stake. They also seemed to matter in tangible as well as intangible ways. Elites certainly gave the impression that they were concerned about these protests, and this served to reinforce the feeling that the stakes were high. Huge numbers of police and military personnel were used to protect conference centres, hotels and the participants themselves from the protesters. The protests tapped into popular sentiment and in their own ways affected the climate of opinion, such that elites had to be responsive to the concerns articulated by the protesters. So for a while it seemed that protests and demonstrations were an effective way of bringing activists together and influenc­ing the actions and policies of global elites. Here, quite tangibly, was ‘the movement’. However, even within the movement there were those who expressed scepticism about such an emphasis being given to what had become a mobile carnival of protests and demonstrations - or ‘serial protesting’ as Naomi Klein aptly put it. Alex Callinicos, to take one notable example, offered a critique of what he termed ‘movementism’, which he equated to the belief that protests and demonstrations would displace the need for more durable forms of organisation, for the development of a programme and ultimately for capturing power from elites as KA opposed to merely influencing them in the direction of more just or equitable policies. He predicted, presciently as it turned out, that once the initial wave of energy and enthusiasm for protests had begun to wane, the shortcomings of this approach would be revealed and that in its stead would be left recrimination and few victories. What Callinicos neglects in his argument is that one of the reasons why activists focused on protests and demonstrations is because ‘party building’ seemed such a tired formula. Protests were the antidote to the Leninist ‘cure’ as far as many disaffiliated activists were concerned. On the other hand, it is certainly true that much of the momentum went out of summit protests over the course of the first decade of the twenty-first century. This was so for several reasons, which it is worth recounting to get a sense of the changing context in which anti-capitalist initiatives took place. Firstly, what became obvious was the mounting cost to individu­als and groups of taking part in major demonstrations. As part of the War on Terror unleashed in the wake of the 9/11 al-Qaeda attacks, most states had invested significantly in intelligence services, counter-terrorism initiatives, surveillance capacity and police and army training to combat threats to ‘civil security’. This was justified by reference to the threat of attack from religious extremists. But ‘threat’ is an elastic term that can be used to encompass a range of ‘extremists’ who seem to represent a threat to law and order. Many of these techniques were now deployed against those engaged in anti-capitalist protests and demonstra­tions. It became familiar for protesters in, for example, the UK to be confronted by a squad of police officers - the Forward Intelligence Team (FIT) - brandishing cameras to record the faces of all those engaged in a protest. Such overt displays of policing are designed to fulfil two functions. Firstly, they demon­strate to the public that protests are considered by authorities on the same continuum as more violent or terroristic activities. Secondly, they are designed to intimidate participants. Making protestors the subject of overt surveillance is a Draconian reminder of who is in charge’. The idea is to ramp up the personal cost of being engaged in such activities, deterring ordinary people who may wish to demonstrate their displeasure at government policy or the actions of global elites. This leaves behind a rump of more militant activists who can more easily be monitored and controlled.

#### 18. Viewing growth as trading off with the environment undermines true progress towards solving for environmental degradation and loss

Loris, 19, Nicolas Loris, Nick is an economist who focused on energy, environmental, and regulatory issues as the Herbert and Joyce Morgan fellow, 10/23/2019, “Breathe Free: Capitalism Helps Protect the Environment”, <https://www.heritage.org/environment/commentary/breathe-free-capitalism-helps-protect-the-environment>

Too often, we use phrases like “balancing economic growth and environmental protections.” This suggests that more growth necessarily degrades the environment. But the two aren’t mutually exclusive. When America and the rest of the world embrace policies rooted in economic freedom, both prosperity and the environment flourish. In this instance, you really can have your cake and eat it, too.

#### 19. Capitalism is sustainable

Foss et al. 22 (Nicolai J. Foss , Peter G. Klein, and Samuele Murtinu, Foss has a works at the Copenhagen business school, Klein works for Baylor, and many more qualified authors, September 2022, accessed on 6-18-2022, Scandinavian Journal of Management, "The economy doesn’t need a reset, and neither does management theory", https://www.sciencedirect.com/science/article/pii/S0956522122000215)

What these critics are describing here is not capitalism but “cronyism” ([Rubin, 2016](https://www.sciencedirect.com/science/article/pii/S0956522122000215" \l "bib71)). As [Klein et al. (2021)](https://www.sciencedirect.com/science/article/pii/S0956522122000215" \l "bib47) argue, confusing capitalism and cronyism is a long-standing mistake. Classic proponents of the free-enterprise system such as [Schumpeter (1942)](https://www.sciencedirect.com/science/article/pii/S0956522122000215" \l "bib73)¸ [Mises (1922)](https://www.sciencedirect.com/science/article/pii/S0956522122000215" \l "bib57), or [Friedman (1962)](https://www.sciencedirect.com/science/article/pii/S0956522122000215" \l "bib27) describe capitalism as a mode of social organization which entails that (1) productive resources are (mostly) privately owned, (2) markets are used to allocate resources, products and services, (3) individuals and groups are (mostly) free to engage in economic activity without centralized control or interference from the state, and (4) institutions exist that enable (1) to (3), notably by making sure that property rights to resources are precisely delineated and enforced, which enables investments and make the costs of exchange relatively low (for qualifications, reservations, etc., see [Klein et al., 2021](https://www.sciencedirect.com/science/article/pii/S0956522122000215#bib47)). These are the “primitives” of capitalism as a system. Other oft-mentioned aspects (whether positive, negative, or purely descriptive), such as free movements of goods, capital, and labor across borders, are derived from these. Critics of capitalism take for granted that capitalism is responsible for rampant pollution, increasing inequality, concentration of industries, and so on, but rarely engage in systematic, empirically grounded, comparative institutional analysis. Both theory and a careful study of the historical record suggest that non-capitalist systems experience these problems to a far greater degree than capitalist systems. For example, in a market economy, well-defined property rights can keep pollution and other sustainability issues under control ([Rothbard, 1982](https://www.sciencedirect.com/science/article/pii/S0956522122000215" \l "bib70)); in contrast, the worst known cases of industrial pollution occurred in the twentieth century in the non-capitalist countries behind the Iron Curtain. Freedom of contract will secure dynamism and social mobility and thus counteract tendencies to concentration of industries and capital and increasing inequality ([Dean and Geloso, 2021](https://www.sciencedirect.com/science/article/pii/S0956522122000215" \l "bib20), [Nikolaev and Bennett, 2016](https://www.sciencedirect.com/science/article/pii/S0956522122000215" \l "bib60), Bennett & Nikolaev, 2016). Socialist economies, and capitalist economies characterized by a substantial degree of government intervention, experience stagnation and social strife. The basic vision outlined by the above thinkers has been remarkably correct when applied to the economic history of the last two hundred years. Whenever capitalist principles have been applied they have tended to bring prosperity, education, improvements in health, and equality of opportunity ([Leeson, 2010](https://www.sciencedirect.com/science/article/pii/S0956522122000215" \l "bib51)). The wealth generated by the operation of free markets provide the resources needed to deal with many environmental issues. Defining property rights to hitherto unowned resources, that is, pollution rights and making these tradeable has become an instrument of allocating such rights to their highest-valued uses and stimulate innovation in technologies that reduce CO2 emissions. Free markets and borders that are open to the movement of products and services enable the diffusion of such technologies. In short, free markets have increasingly been instrumental in dealing with ecological challenges. Among the various socio-economic systems, it is clear that “capitalism comes closest to meeting the conditions of efficiency and maximum well-being, even if no capitalist economies meet these conditions perfectly” ([Klein et al., 2021](https://www.sciencedirect.com/science/article/pii/S0956522122000215#bib47)).

#### 20. Growth is good.

Caden 19, Art Carden, AIER PhD in economics at Samford, 12/12/2019, “Growth Is Good”, <https://www.aier.org/article/growth-is-good/>

Growth is good. Through history, economic growth in particular has alleviated human misery, improved human happiness and opportunity, and lengthened human lives. Wealthier societies are more stable, offer better living standards, produce better medicines, and ensure greater autonomy, greater fulfillment, and more sources of fun. If we want to sustain our trends of growth, and the overwhelmingly positive outcomes for societies that come with it, every individual must become more concerned with the welfare of those around us.

#### 21. Growth is still the answer to the **world’s** economic problems

Peterson 22, Nick Peterson, Nick Peterson is a writer for the financial times, 4/10/2022, “Growth is still the answer to the world’s economic problems”, https://www.ft.com/content/e1242c8e-e918-4eb5-9bf1-33d32c098b65

In 1931, John Maynard Keynes published a short essay entitled “Economic Possibilities for Our Grandchildren” in which he considered the feasibility of solving what he called “the economic problem”. According to Keynes, the issue of scarcity ought to have been dealt with by the early 21st century. Decades of capitalist progress would leave society with the capacity to produce the resources needed to guarantee everyone a good standard of living. The problem, at this point, would be finding ways to spend well-earned leisure time. More than 90 years later, it is fair to say that Keynes’ prediction of abundance was not wrong: the scale of production possibilities available to us in 2022 is well beyond what he probably imagined in 1931. But “economic problems” have not gone away. In fact, there is an intellectual debate raging over how to define our primary issues and what to do about them. Is finding a way to create more growth still the key to a good society? Or is our primary economic problem finding a way to deal with inequality and environmental degradation? The most recent contribution to this debate comes from Jonathan Haskel, professor of economics at Imperial College Business School, and Stian Westlake, chief executive of the Royal Statistical Society. They situate themselves firmly in the “more growth” camp. Their book, Restarting the Future, suggests that capitalism can be revitalised by promoting “further investment” in what they call “intangible capital”. This thesis builds on their last collective effort, Capitalism without Capital, published in 2017. In that book, Haskel and Westlake outlined how the capitalist system has shifted from investment in physical capital, such as machines and factories, towards intangible capital, such as software. Importantly, this kind of capital behaves differently from physical assets: the more it makes up the economy, the more it can change the dynamics of capitalism itself.