### Econ

Increasing growth reverses previous damage.

Stern ‘1(David, Research Fellow at the Centre for Resource and Environmental Studies, 2001 [Australia National University, “The environmental Kyznets curve: a review,” *The Economics of Nature and the Nature of Economics,* p. 193-4)

The environmental Kuznets curve (EKC) hypothesis proposes that there is an inverted U-shape relation between various indicators of environmental degradation and income per capita. This has been taken to imply that **economic growth will eventually redress the environmental impacts of the early stages of economic development** and that **growth will lead to further environmental improvements in** the **developed countries**. Far from being a threat to the environment in the long term, as argued in The Limits to Growth and Beyond the Limits by Meadows et. al. (1972, 1992) among others, economic growth is seen as necessary in order for environmental quality to be maintained or improved. This is an essential part of the sustainable development argument as put forward in *Our Common Future* by WCED (1987). The EKC literature constitutes an evaluation of these arguments. The EKC is named after Simon Kuznets (1955, 1963) who hypothesized that the relationship between a measure of inequality in the distribution of income and the level of income is an inverted U-shape curve. Figure 8.1 illustrates the typical shape of the EKC. Proponents of the EKC hypothesis argue that at very low levels of economic activity environmental impacts are generally low, but as development proceeds the rates of land clearance, resource use and waste generation per capita increase rapidly. However, “at higher levels of development, structural change towards information-intensive industries and services, coupled with increase environmental awareness, enforcement of environmental regulations, better technology and higher environmental expenditures, result in leveling off and gradual decline of environmental degradation” (Panayoton, 1993). Thus there are both proximate causes of the EKC relationship – changes in economic structure or product mix, changes in technology and changes in input mix – as well as underlying causes such as environmental regulation, awareness and education. These effects act to counteract or exaggerate the gross impact of economic growth or the scale effect. The EKC theme was promoted by the World Bank’s *World Development Report 1992* (IBRD, 1992). The authors noted that “The view that greater economic activity inevitably hurts the environment is based on static assumptions about technology, tastes, and environmental investments” (p. 38) and that “As incomes rise, the demand for improvements in environmental quality will increase, as will the resources available for investment” (p. 39). Some expanded this position even more forcefully: “there is clear evidence that, **although** economic **growth** usually **leads to** environmental **degradation in** the **early stages** of the process, **in the end the best** – and probably only **– way to attain a decent environment** in most countries **is to become rich**” (Beckerman, 1992).

Transition won’t solve the environment—

Dickinson 8 - Pete, “Will the downturn save the planet? – A green new deal?” Socialist Alternative, 12-24, http://www.socialistalternative.org/news/article19.php?id=981

On the face of it, these figures seem to indicate that there is, indeed, a possibility of serious reductions in greenhouse gasses due to the economic crisis, even if it is significantly less than the extreme example of Russia. A closer look, however, reveals that it is unlikely that an economic downturn will significantly mitigate climate change effects, particularly in the medium or long term, for several reasons. Firstly, Crutzen, in addition to predicting falling emissions due to the crisis, also made the point that the downturn could result in less being spent on research, which could make global warming worse, a fear that is already being justified. Latest figures show that global investment by firms in renewable technology has slumped, even before the current deepening of the crisis, falling 24% from the second to the third quarter of this year, from $5.8 billion to $4.4 billion (Financial Times, November 11). The markets clearly see no future in green technology in the short term, either, as various indices of share values in the sector have fallen from between 50-80% over the past twelve months. Market forces are now working strongly against renewables, with the fall in the price of oil undermining profitability projections and the credit crunch cutting off access to funding for new projects. In California, a leading renewables firm, Ausra, had plans to raise money to develop a promising new type of solar energy. This is called solar thermal power, that uses mirrors to concentrate the sun’s rays to heat water to use in turbines to generate electricity, which could turn out to be far cheaper than solar panels. Now, sources of finance have dried up. The second reason not to expect the crisis to solve global warming is that production in the Soviet Union was heavily biased to highly polluting "smokestack" industries, whereas in the G7 countries, which account for most of world production, output is much more oriented to services, IT and consumer goods. For this reason, any downturn will result in much smaller reductions in emissions, since these sectors are very significantly less energy intensive. Thirdly, the scale of a downturn is extremely unlikely to approach that of the Soviet catastrophe. To get a comparison, output in the USA in the Great Depression fell by about one third – significantly less in some countries such as Britain. On a world scale, the economy in the 1930s fell by a fraction of that in the Soviet Union in the 1990s. Also, while a slump rather than a recession may still happen today, the lessons that have been learnt by the bourgeoisie since mean that a downturn probably will not happen on a similar scale to the 1930s. For example, policy interventions in downturns since the second world war have resulted in world production falling only once, in 1975/76, and then only marginally. An uncertain factor is China, which has become the world’s biggest emitter of global warming gasses, partly by expanding energy intensive industries such as steel in the past seven years. There is some evidence now that a significant fall in production is taking place. If this is repeated across other previously rapidly expanding energy guzzling sectors in China, significant falls in greenhouse gasses could happen. However, the Chinese government has just launched a stimulus package, which has got massive accumulated resources to back it up, and which could significantly mitigate any overall fall in production in that country. Even if a deep slump unfortunately does occur, following the suffering and devastation, at some point an upturn will take place that will reverse ultimately any falls that had taken place in greenhouse gasses, if the capitalist system is allowed to continue. Also, whatever the severity of the economic crisis, there are enough global warming gasses trapped in the atmosphere already to drive global temperature rises for decades to come. The reality is that there is no way to deal with climate change except through the transformation of the mode of production, the global application of sustainable technologies (see Planning Green Growth, by Pete Dickenson, Socialist Publications and CWI, 2003).

Growth makes population and resources sustainable.

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From a social standpoint, **accelerating productivity is** not an option but rather **an imperative** for the future. It is necessary in order **to provide the wealth for environmental sustainability**, to support an aging population in the industrialized world, and to provide an economic ladder for developing nations. The second area of opportunity for technology lies in its potential to help stabilize global population at 10-12 billion sometime in the twenty-first century, possibly as early as 2075. The key is economics. Global communications, from television to movies to the Internet, have brought an image of the comfortable life of the developed world into the homes of the poorest people, firing their own aspirations for a better quality of life, either through economic development in their own country or through emigration to other countries. **If we** in the developed world can **make** the basic tools of **prosperity**--infrastructure, health care, education, and law--**more accessible** and affordable, recent **history suggests** that the **cultural drivers for** producing **large families will be tempered,** relatively **quickly** and without coercion. But the task is enormous. The physical prerequisites for prosperity in the global economy are electricity and communications. Today, there are more than 2 billion people living without electricity, or commercial energy in any form, in the very countries where some 5 billion people will be added in the next 50 years. If for no other reason than our enlightened self-interest, we should strive for universal access to electricity, communications, and educational opportunity. We have little choice, because the fate of the developed world is inextricably bound up in the economic and demographic fate of the developing world. A third, related **opportunity for technology is in decoupling population growth from land use and**, more broadly, decoupling economic **growth** **from** natural **resource consumption through recycling,** end-use **efficiency, and industrial ecology**. Decoupling population from land use is well under way. According to Grubler, from 1700 to 1850 nearly 2 hectares of land (5 acres) were needed to support every child born in North America, while in the more crowded and cultivated regions of Europe and Asia only 0.5 hectare (1.2 acres) and 0.2 hectare (0.5 acre) were needed, respectively. During the past century, the amount of land needed per additional child has been dropping in all areas of the world, with **Europe and North America** experiencing the fastest decreases. Both **crossed the** "zero **threshold**" in the past few decades, meaning that **no additional land is needed to support additional children and** that land **requirements will** **continue to decrease** in the future. One can postulate that the pattern of returning land to nature will continue to spread throughout the world, eventually stemming and then **reversing the current onslaught on** the great rain **forests**. Time is critical if vast tracts are to be saved from being laid bare, and success will largely depend on how rapidly economic opportunities expand for those now trapped in subsistence and frontier farming. In concept, the potential for returning land to nature is enormous. Futurist and scholar Jesse Ausubel of the Rockefeller University calculates that if farmers could lift average grain yields around the world just to the level of today's average U.S. corn grower, one-half of current global cropland--an area the size of the Amazon basin--could be spared. If agriculture is a leading indicator, then the continuous drive to produce more from less will prevail in other parts of the economy Certainly **with shrinking** agricultural **land requirements, water** distribution and **use** around the world **can be greatly altered**, since nearly two-thirds of water now goes for irrigation. Overall, the technologies of the future will, in the words of Ausubel, be "cleaner, leaner, lighter, and drier"--that is, more efficient and less wasteful of materials and water. They will be much more tightly integrated through microprocessor-based control and will therefore use human and natural resources much more efficiently and productively.

No diminishing returns on innovation.

Orszag et al 6 – Jason E. Bordoff, Policy Director Michael Deich, Managing Director Peter R. Orszag, Director Rebecca Kahane, Research Assistant A Hamilton Project Strategy Paper, Promoting Opportunity and Growth through Science, Technology, and Innovation, Brookings Institute, Dec, <http://www.brookings.edu/papers/2006/12technology_bordoff.aspx>

Maintaining our nation's economic leadership in the world and promoting broad-based growth at home will require effective policies to support research, innovation, and access to advanced information and telecommunications technologies. Innovation has long fueled economic growth, often giving rise to new industries and new jobs. According to the National Academies, "**Since the Industrial Revolution**, the **growth** of economies throughout the world **has been driven largely by** the pursuit of scientific understanding, the application of engineering solutions, and continual technological **innovation**". Numerous academic studies confirm that technological progress has accounted for a significant share of U.S. economic growth; a recent study shows that the share of economic growth directly attributable to research and development (R&D) investment has increased over time. What makes knowledge, **innovation, and technology** such powerful drivers of economic growth is **that,** unlike capital and labor, they **do not suffer from diminishing returns.** Indeed, in many cases the creationof **knowledge** **and** technological **innovation** actually **increase the return to further knowledge** and innovation, thus **creating a powerful growth mechanism**.

Collapse fails – makes warming worse.

Dickinson 8 - Pete, “Will the downturn save the planet? – A green new deal?” Socialist Alternative, 12-24, http://www.socialistalternative.org/news/article19.php?id=981

On the face of it, these figures seem to indicate that there is, indeed, a possibility of serious reductions in greenhouse gasses due to the economic crisis, even if it is significantly less than the extreme example of Russia. A closer look, however, reveals that **it is unlikely** that an economic **downturn will** significantly **mitigate climate change** effects, particularly in the medium or long term, for several reasons. Firstly, Crutzen, in addition to predicting falling emissions due to the crisis, also made the point that the **downturn** could **result in** **less** being **spent on research**, which could make global warming worse, a fear that is already being justified. Latest figures show that global investment by firms in renewable technology has slumped, even before the current deepening of the crisis, falling 24% from the second to the third quarter of this year, from $5.8 billion to $4.4 billion (Financial Times, November 11). The markets clearly see no future in green technology in the short term, either, as various indices of share values in the sector have fallen from between 50-80% over the past twelve months. Market forces are now working strongly against renewables, with the fall in the price of oil undermining profitability projections and the credit crunch cutting off access to funding for new projects. In California, a leading renewables firm, Ausra, had plans to raise money to develop a promising new type of solar energy. This is called solar thermal power, that uses mirrors to concentrate the sun’s rays to heat water to use in turbines to generate electricity, which could turn out to be far cheaper than solar panels. Now, sources of finance have dried up. The second reason not to expect the crisis to solve global warming is that **production in the Soviet Union was heavily biased to highly polluting** "smokestack" **industries**, whereas **in the G7** countries, which account for most of world production, **output is** much more oriented to **services**, IT and consumer goods. For this reason, any **downturn will result** **in much smaller reductions** **in emissions**, since these sectors are very significantly less energy intensive. Thirdly, the **scale of** a **downturn is extremely unlikely to approach** that of **the Soviet** **catastrophe**. To get a comparison, **output in the** USA in the Great **Depression fell by** about **one** **third** – significantly less in some countries such as Britain. On a world scale, the economy in the 1930s fell by **a fraction of** that in **the Soviet Union** in the 1990s. Also, while a slump rather than a recession may still happen today, the lessons that have been learnt by the bourgeoisie since mean that a downturn probably will not happen on a similar scale to the 1930s. For example, policy interventions in downturns since the second world war have resulted in world production falling only once, in 1975/76, and then only marginally. An uncertain factor is China, which has become the world’s biggest emitter of global warming gasses, partly by expanding energy intensive industries such as steel in the past seven years. There is some evidence now that a significant fall in production is taking place. If this is repeated across other previously rapidly expanding energy guzzling sectors in China, significant falls in greenhouse gasses could happen. However, the Chinese government has just launched a stimulus package, which has got massive accumulated resources to back it up, and which could significantly mitigate any overall fall in production in that country. **Even if a deep slump** unfortunately does **occur**, following the suffering and devastation, at some point **an upturn** will take place that **will reverse** ultimately **any falls that had taken place** in greenhouse gasses, if the capitalist system is allowed to continue. Also, whatever the severity of the economic crisis, **there are enough global warming gasses trapped in the atmosphere already to drive** global **temperature rises for decades** to come. The reality is that there is no way to deal with climate change except through the transformation of the mode of production, the global application of sustainable technologies (see Planning Green Growth, by Pete Dickenson, Socialist Publications and CWI, 2003).

Wars more likely in downswings.

Cashman 2k (Greg, poli-sci @ Salisbury state U, *What causes war?: an introduction to theories of international conflict* , pg. 68) ET

What does this have to do with Modelski’s long-cycle theory? Goldstein argues that the hegemonic cycle and economic long-wave cycle, though they are not in phase with each other, operate in conjunction with each other. Thus, hegemonic decline does not by itself lead to war; it is only dangerous when it coincides with an expansionary phase of the economic cycle. Economic expansion by itself is not dangerous either; it must be accompanied by hegemonic stagnation. For example, the economic expansion of the 1960s was not associated with major wars because of the strong hegemonic position of the United States. Goldstein predicts new economic upswings to coincide with the continuation of American hegemonic decline between 2000 and 2030 Jack levy reexamines the issue, matching Goldstein’s data on economic production cycles against the ten general wars of the last 5 centuries. He is interested not in peaks of war severity, but in war initiation. When the production cycle alone is considered (after all, Goldstein’s theory is based on the rise and fall of production, rather than on prices or other variables), **Levy** **discovers** a picture at odds with Goldstein’s theory. **Four of the ten wars were begun during the** **middle or end of a** production **downswing** phase, and two occurred at the beginning of an upswing- rather than near the end of the upswing, as Goldstein’s theory suggests. **Many** of the wars **broke out near the transition** **from downswing to upswing, so** that the **causalities** associated with them **belonged in the upswing phase even though the wars** might have **begun in the downswing**- explaining why Goldsttein found an association between K-waves and severity of war, but not between k- waves and war initiation.

No K waves.

North 9 - Gary, economist and publisher and PhD in history from the University of California, Riverside, The Myth of the Kondratieff Wave, 6-27, http://www.lewrockwell.com/north/north725.html

**The K-Wave** supposedly **should have** bottomed in 1933, risen for 27 years (1960), **declined in** **economic contraction until 1987**, and boomed thereafter. The peak should therefore be in 2014. There is a problem here: **the** cyclical **decline from** 19**60 to** 19**87**. It **never materialized**. Prices kept rising, escalating with a vengeance after 1968, then slowing somewhat — just in time for the longest stock market boom in American history: 1982—2000. OK, say the K-Wavers: let's extend the cycle to 60 years. Fine. Let's do just that. Boom, 1932—62; bust, 1963—93; boom, 1994—2024. Does this correspond to anything that happened in American economic history since 1932? No. KONDRATIEFF RESURRECTED Who was Nikolai Kondratieff? He was an economist under Lenin, who had some influence in promoting Lenin's New Economic Policy (NEP), which re-introduced limited private ownership locally. He wrote articles on capitalist cycles, published in 1925 and 1926. He was arrested in 1930, after Stalin came into power. Stalin sent a letter to Molotov asking for Kondratieff's execution. He was arrested and sent to Siberia for eight years. Stalin had him executed in the Great Purge of 1938. The court gave him 10 years in prison. He was executed the same day. For reasons unknown, the mid-1970's saw a revival of interest in the Kondratieff wave. Hard-money newsletters kept telling their subscribers that the economic peak had passed, that a 30-year period of secular economic decline was about to begin. Julian Snyder was the most visible of these newsletter editors. His International Moneyline ($282/year — $560 in today's money) began predicting this cyclical decline sometime around 1976. He even went so far as to pay for a translation of Kondratieff's Russian language articles, which he published as The Long Wave (1984). In 1989, Richard Russell took over the unexpired subscriptions for International Moneyline. Mr. Snyder promptly disappeared . . . one hopes not as Kondratieff did. In 1985, John Shuttleworth, the founder of Mother Earth News, came back to write a guest column. He summarized the "state of the Kondratieff union." Many of you will remember that as far back as issue 44 (March/April 1977)], this column has explored and quoted from the 1920s work of Russian economist Nikolai D. Kondratieff. Particularly as interpreted by Julian M. Snyder, editor and publisher of International Moneyline ($282 a year from 25 Broad St., New York, NY 10004). . . . Julian Snyder is a good friend of Massachusetts Institute of Technology Professor Jay W. Forrester — another Kondratieff student — and, in recent months, has quoted the good professor extensively. According to both Forrester and Snyder, the last expansion phase of Western society ran from 1945 to a peak in 1974 . . . before plunging into the sharp 1974—1975 recession. During the plateau period that followed, business — as we all know — was fundamentally tired, credit became increasingly overextended, and economic activity in general was sluggish. At the same time, however (especially during 1984), the forces of inflation wound down . . . and we've all enjoyed rising purchasing power without the pain of higher prices. Forrester's MIT studies indicate that the 1981—1982 recession (the worst downturn since the Great Depression of the '30s) was the first leg of the approaching downswing. "What lies ahead," says Julian Snyder, "is another Great Depression that will color your life until the end of the century. However, it will not likely be a reprise of the thirties." Some of you may remember Prof. Forrester. He assembled the computerized data that led to the publication of a best-selling book, The Limits to Growth (1972), which in retrospect became notorious for being the Siamese twin of Prof. Paul Ehrlich's legendary book, The Population Bomb (1968). Together, they remain the two landmarks of the "running out of resources" school of economics. They were, in short, dead wrong. Commodity prices began to fall in 1981 and continued to fall until the turn of the century. No 20-year period in man's recorded history has matched this decline in commodity prices, making the world richer. Wages did not fall. There was a chart that supposedly proved that the crash was near. If you search Google for "Kondratieff wave" and "chart," you will find it all over the web. This chart was, as they say, "idealized." This means "faked," but nobody used that term. It was a chart of wholesale prices, which have nothing to do with cycles. Here it is, in all its glory. There is always a market for bearish stock market scenarios. It doesn't matter what theory is offered. There are believers who love the conclusion but who don't have the ability to explain the particular chart, theory, or logic behind the forecast. Here is an oddity. In 35 years, I have never seen a bullish stock market forecast based on the Kondratieff wave. Yet half of the time a cycle is in the upswing. Why isn't there someone out there who made his subscribers a lot of money by using the Kondratieff wave to forecast the peak (sell short) and the trough (go long)? Why is it that the cycle's peak is always immediately behind us? Why is it that we are never in the trough? KONDRATIEFF'S ADMISSION **Kondratieff admitted** that **there was no theoretical basis for his cycle**. He also admitted that some of the price data revealed no traces in his cycle. He selected two groups of "elements of economic reality," as he called them. This is from The Long Wave Cycle (Richardson & Snyder, 1984). The elements of the first group were characterized by the fact that, along with the fluctuating processes, their dynamic did not manifest any general growth or decline (secular trend), or else that trend was scarcely noticeable — at any rate, for the period under observation (p. 33). What was he talking about? For one thing, commodity prices. **He admitted:** "In processing the statistics on the dynamics of the series of this group, **I used simple** **analytical methods to bring out the long cycles**" (p. 33). In short, **he manipulated the evidence** until he obtained a pattern. He said he found patterns in other statistics. But was there an underlying economic reality, "some real trends in economic development? This is a very big question, and I cannot now elucidate it." Yet this is the heart of his supposed cycle. "We do not have a method for determining how accurately a theoretical curve reflects real evolutionary-economic trends" (p. 35). All that he could find in the pig iron and lead statistics was one and a half or maybe two cycles (p. 52). . . . we did not succeed at all if finding long cycles in the dynamics of cotton consumption in France, and wool and sugar production in the United States, or in the dynamics of certain other series (p. 58). As has already been noted, in my own investigation I discovered series in whose dynamics there were no long cycles (p. 62). As for the pattern of the long cycle, First, I emphasize its empirical character: as such, it is lacking in precision and certainly allows of exceptions. Second, in presenting it I am absolutely disinclined to believe that it offers any explanation of the causes of the long cycles (pp. 68—69). He was frank about the extreme limitations on his data and his findings. His disciples are not. ROTHBARD ON KONDRATIEFF It is superfluous for me to wax eloquent on the theoretical and statistical deficiencies of the Kondratieff cycle, when Murray Rothbard did it so well in 1984: "The Kondratieff Cycle: Real or Fabricated?" Let us begin here: **Business cycles began a mere two centuries ago**. Despite the fevered hopes of some enthusiasts who claim to have observed business cycles going back to Methuselah, before the late eighteenth century there was no such phenomenon. **Kondratieff** admitted as much. He **had no price data** for most of Europe **that preceded** **1850**. He had some from around 1800 from England and the United States. But I can tell you as a man trained in economic history, the **records are incomplete**. When the Nazis bombed London in 1940, a bomb took out part of the British Museum. My teacher, Herbert Heaton, found that much of the information he needed in his work was destroyed. In one case, he had to go to centuries-old breweries on the Thames River for records of grain prices after 1780. That's what he told us in the late 1960's. Rothbard continues: One of the worst things about the "business cycle" is its name. For somehow the name "cycle" caught on, with its implication that the wave-like movement of business is strictly periodic, like the cycles of astronomy or biology. An enormous amount of error would have been avoided if economists had simply used the term "business fluctuations." For man is all too prone to leap to the belief that economic fluctuations are strictly periodic and can therefore be predicted with pinpoint accuracy. The fact is, however, that these **waves are in no sense periodic**; they last for few years, and the "'few" can stretch or contract from one wave to the next. The periodic notion was unfortunately fed by the fact that the early panics seemed to be ten years apart: 1837, 1847, 1857, but pretty soon that periodicity broke down. Then he gets to Kondratieff's cycles. Kondratieff postulated a "long wave" of business that began somewhere in the late 1780s — it is all very murky since there are almost no statistical data for that period — and continues periodically roughly every 54 years. Well, what about the trough points? No question that the late 1930s — a "Kondratieff trough" — was a pretty miserable period. But what about the other three trough periods? What was wrong about the 1780s, for example? No particular depression there. And if we want to be generous and dismiss that "first trough" for lack of data or as only starting the whole thing, what about the alleged second trough? Fifty-four years from 1789 brings us to the "expected" trough year of 1843, a year in which everything was smooth sailing. Let us be generous and bend over backward for the Kondratieffites, and give them their admitted 1849 as the trough year. Even so, 1849 was a perfectly fine economic year, and in no sense whatever comparable to the late 1930s! In 1849, we were in the middle of continuing prosperity. . . . Let us then look more closely at the long contraction, or "long depression," phases of the Kondratieff cycle. To make any sense, they should in some way look and feel like depressions, like grim periods of decline in business activity. The first Kondratieff long depression was supposed to be the period 1814—1849. But these thirty-five years were by and large a period of great expansion, prosperity and economic growth for the United States, England and France, the three countries Kondratieff used for his statistical analysis. And what of the second Kondratieff depression, the period 1866—96? Was that in any sense a depression? For the United States, and to a large extent for Western Europe as well, this was the period of the most dazzling spurt of production and economic growth in the history of the world. Production and living standards skyrocketed. How in the world could three such glorious decades be called a period of secular decline? Rothbard goes on for pages, peak by peak, trough by trough. He shows that **Kondratieff's** alleged **dates for** the **peaks and troughs do not correspond to the** general **economy** in the United States. Then he delivered the final blow. This, remember, was in 1984, at the beginning of the longest boom in American history. But the Kondratieffites' problems have only begun. Their real difficulties come after the alleged Kondratieff trough of 1940 — the last trough so far. The entire boom-bust "long" cycle is approximately 54 years in length. Allow a few years here and there. But still: It has already been 44 years since the Kondratieff trough. A 44-year boom! So where's the peak? The peak is getting long overdue. Most of the Kondratieffites confidently predicted that the peak would arrive in 1974, just 54 years after the previous peak. Previous peak-to-peak stretches had been 52 (from 1814 to 1866), and 54 (1866 to 1920). So where indeed is the peak? It is now 1984 and counting. We are ten years past the confident prediction and we still have inflation. The Kondratieffites have been forecasting imminent deflation since the magic 1974 year, but still . . . nothing! Then Rothbard made a prediction. It has proven to be a bad prediction. It held up throughout the 1990s, but it is no longer accurate. No, the Kondratieff is dead, and now it is simply a question of how long it will take the Kondratieffites to lie down, to admit defeat and slip away into the night. How many years will it take before everyone sees that there has not been and will not be a "fourth peak"? And without such a peak, there can be no cycle. The old-timers died off. The newsletters that hyped the K-Wave ceased publication. The gold conferences faded into the mists of time. But a new generation of lemmings is headed toward the cliff. PUGSLEY'S CRITIQUE Two years before Rothbard published his critique, John Pugsley wrote a detailed critique of Kondratieff's cycle. He ran it in his newsletter, Common Sense Viewpoint (Nov. 1982). I remember it well, and I contacted him to see if he would FAX me a copy. He did. He began with the observation that all of the promoters of the theory were forecasting 30 years of recession and deflation. This was in 1982, the year the Dow Jones Industrial Average bottomed in mid-August, at 777. Kondratieff had at most two and a half cycles in his two papers. That number was available for only four data series. Of the 36 data series, he could find evidence of cycles in only 11 of them. The monetary series and the real series correlated in only 11 of 21 series, all short. Pugsley then cited extensively from an article by C. Van Ewijk of the University of Amsterdam (The Economist, Nov. 3, 1981). Van Ewijk noted that Kondratieff followed no consistent methodology in choosing the types of trend curves that he selected for different data sources. Kondratieff used various statistical techniques to smooth the curves to make them appear as long waves. "In case after case, no wave could be identified." **He used price data, but these did not correlate with the actual economic output** of the four economies that he studied. Then the waves that he presented were further "idealized" by whoever created the chart that has circulated ever since. Pugsley noted: "The upward movement of prices from 1933 to the present has already spanned fifty years, which is supposed to be the average length of a complete cycle." So far, price inflation has extended for about 75 years. Yet the deflationists are still predicting long-term, severe price deflation, and some of them invoke the Kondratieff wave to prove their assertion. Pugsley concluded: In not one case does the evidence corroborate the existence of the wave. Prices and output are not directly related — if anything they are inversely related. The forty-five to sixty-year period of the wave is only partially evident in the nineteenth century, and then only in the price series. Price moves in the twentieth century do not correspond to this periodicity, as claimed by long-wave proponents. There is absolutely no statistical correlation between series of real variables such as production and consumption, and monetary series such as prices and interest rates. Production and prices of the four countries studied do not statistically correlate; thus there is no wave operating coincidentally in the industrialized countries. In other words, Kondratieff's hypothesis is simply not supported by any evidence. The long wave exists only in the minds of a few misguided analysts, but not in the real world. It is pure hokum.

Oxygen impact so dumb.

SPPI, August 18, 2008 Science and Public Policy Institute, “Oxygen Scarcity Threatens Humankind”

 “At any rate, you see that the **oxygen level couldn’t have decreased by more than 0.01%** or so, from 20.95% to 20.94%, which is pretty much exactly what was observed. **We needed** centuries or **millennia to achieve this** modest **effect**. It is very clear that **even if we burned all forests, plants, animals, and fossil fuels in the world, we couldn't get the oxygen levels below 20%** (and maybe not even 20.9%). “Does the tiny decrease of oxygen levels change some important things? It doesn’t.The most ‘spectacular’ change is that the wildfire risk decreases by something like 0.01%, too(and maybe slightly more), as the oxygen levels drop. Because wildfires are somewhat unpopular and their decrease would be good news, you won’t read about it. “At any rate, all these changes are negligible given the tiny change in O2 levels. ”Tatchell writes: ‘I am not a scientist, but this seems a reasonable concern.’ Reasonable to whom? To me, worries about the ‘oxygen crisis’ seems to be a ticket for someone to be sent to a mental asylum. The point here is not whether Tatchell is a scientist: he's clearly not. The question is whether he is a dangerous enough weirdo to be isolated from society. “**We can’t change the oxygen level in any significant way.** Incidentally, while the overall amount of oxygen in the atmosphere is essentially constant, **the amount of oxygen in various organisms varies dramatically**. For example, the human body must keep the concentration of this harmful-if-too abundant gas around 5% in most organs. This optimal percentage depends on the life forms, which is why the **varying percentage of oxygen in amber** – a point mentioned by Tatchell – **says absolutely nothing about the overall O2 volume**.

We control the uniqueness. It’s impossible to alter the oxygen concentration of the Earth. Vegetation doesn’t affect it. If they solve the advantage, they cause oxygen poisoning and global forest fires.

SPPI, August 18, 2008 Science and Public Policy Institute, “Oxygen Scarcity Threatens Humankind”

The truth: Dr. Roy Spencer, of the University of Alabama at Huntsville, says: “**The O2 concentration** of the atmosphere has been measured off and on **for about 100 years** now, and the concentration, at 20.95%, **has not varied** within the accuracy of the measurements. Only in recent years have more precise measurement techniques been developed, and the tiny decrease in O2 with increasing CO2 has been actually measured. But I believe the O2 concentration is still close to 20.95%. **There is so much O2 in the atmosphere, it is** believed **not** to be substantially **affected by vegetation**, but **it is the result of geochemistry in deep-ocean sediments**. No one really knows for sure. Since **too much O2 is not good for humans,** the human body keeps O2 concentrations down to around 5% in our major organs. **Extra O2** can give you a burst of energy, but it **will** harm you (or **kill you**) if the exposure is too long. It has been estimated that glo**bal wildfire risk would increase greatly if O2 concentrations were much more than they are now**. To say that there is an impending ‘oxygen crisis’ on Earth is the epitome of fearmongering.”

\*\*\*Roy Spencer – Principal Research Scientist at University of Alabama at Huntsville, previously a Senior Scientist for Climate Studies at NASA’s Marshall Space Flight Center, where he and Dr. John Christy received NASA’s Exceptional Scientific Achievement Medal for their global temperature monitoring work with satellites.

Ozone is fine

Pearce 10 – Sr Environmental Correspondent for New Scientist, Fred, Earth's nine lives, New Scientist, 2/27, Vol. 205, Issue 2749

**The world acted quickly to heal the hole. With** most of **the culprit chemicals now banned,** the worst of **the danger has passed.** It is not over entirely, however. One concern is global warming. Trapping more heat close to the Earth's surface leaves the stratosphere colder. This means that the Arctic stratosphere could get cold enough in coming years for the remaining ozone-eating chemicals in the atmosphere to open up an ozone hole over the northern continents. **Away from the poles we look** **safe**, unless there is some unknown quirk of atmospheric chemistry waiting to trip us up. Rockström and Paul Crutzen of the Potsdam Institute for Climate Impact Research in Germany - who won his Nobel prize for ozone-layer chemistry - recommend preventing stratospheric ozone concentrations outside the polar regions from falling by more than 5 per cent, or below a global average of 276 Dobson units (a measurement of the density of stratospheric ozone). **With** the **concentrations of ozone-eaters still falling, it seems likely** that **we will stay within this planetary boundary.**

### Hege

Things are getting better now because of hegemony—intensity and number of wars are at the lowest in history

Drezner 5—Professor of international politics at the Fletcher School of Law and Diplomacy at Tufts University, Daniel, “Gregg Easterbrook, war, and the dangers of extrapolation”, Blog @ Danieldrezner.com, 5/25, <http://www.danieldrezner.com/archives/002087.html>

Daily explosions in Iraq, massacres in Sudan, the Koreas staring at each other through artillery barrels, a Hobbesian war of all against all in eastern Congo--combat plagues human society as it has, perhaps, since our distant forebears realized that a tree limb could be used as a club. But here is something you would never guess from watching the news: War has entered a cycle of decline. Combat in Iraq and in a few other places is an exception to a significant global trend that has gone nearly unnoticed--namely that, for about 15 years, there have been steadily fewer armed conflicts worldwide. In fact, it is possible that a person's chance of dying because of war has, in the last decade or more, become the lowest in human history. Is Easterbrook right? He has a few more paragraphs on the numbers: The University of Maryland studies find the number of wars and armed conflicts worldwide peaked in 1991 at 51, which may represent the most wars happening simultaneously at any point in history. Since 1991, the number has fallen steadily. There were 26 armed conflicts in 2000 and 25 in 2002, even after the Al Qaeda attack on the United States and the U.S. counterattack against Afghanistan. By 2004, Marshall and Gurr's latest study shows, the number of armed conflicts in the world had declined to 20, even after the invasion of Iraq. All told, there were less than half as many wars in 2004 as there were in 1991. Marshall and Gurr also have a second ranking, gauging the magnitude of fighting. This section of the report is more subjective. Everyone agrees that the worst moment for human conflict was World War II; but how to rank, say, the current separatist fighting in Indonesia versus, say, the Algerian war of independence is more speculative. Nevertheless, the Peace and Conflict studies name 1991 as the peak post-World War II year for totality of global fighting, giving that year a ranking of 179 on a scale that rates the extent and destructiveness of combat. By 2000, in spite of war in the Balkans and genocide in Rwanda, the number had fallen to 97; by 2002 to 81; and, at the end of 2004, it stood at 65. This suggests the extent and intensity of global combat is now less than half what it was 15 years ago. Easterbrook spends the rest of the essay postulating the causes of this -- the decline in great power war, the spread of democracies, the growth of economic interdependence, and even the peacekeeping capabilities of the United Nations. Easterbrook makes a lot of good points -- most people are genuinely shocked when they are told that even in a post-9/11 climate, there has been a steady and persistent decline in wars and deaths from wars. That said, what bothers me in the piece is what Easterbrook leaves out. First, he neglects to mention the biggest reason for why war is on the decline -- there's a global hegemon called the United States right now. Easterbrook acknowledges that "the most powerful factor must be the end of the cold war" but he doesn't understand why it's the most powerful factor. Elsewhere in the piece he talks about the growing comity among the great powers, without discussing the elephant in the room: the reason the "great powers" get along is that the United States is much, much more powerful than anyone else. If you quantify power only by relative military capabilities, the U.S. is a great power, there are maybe ten or so middle powers, and then there are a lot of mosquitoes. [If the U.S. is so powerful, why can't it subdue the Iraqi insurgency?--ed. Power is a relative measure -- the U.S. might be having difficulties, but no other country in the world would have fewer problems.] Joshua Goldstein, who knows a thing or two about this phenomenon, made this clear in a Christian Science Monitor op-ed three years ago: We probably owe this lull to the end of the cold war, and to a unipolar world order with a single superpower to impose its will in places like Kuwait, Serbia, and Afghanistan. The emerging world order is not exactly benign – Sept. 11 comes to mind – and Pax Americana delivers neither justice nor harmony to the corners of the earth. But a unipolar world is inherently more peaceful than the bipolar one where two superpowers fueled rival armies around the world. The long-delayed "peace dividend" has arrived, like a tax refund check long lost in the mail. The difference in language between Goldstein and Easterbrook highlights my second problem with "The End of War?" Goldstein rightly refers to the past fifteen years as a "lull" -- a temporary reduction in war and war-related death. The flip side of U.S. hegemony being responsible for the reduction of armed conflict is what would happen if U.S. hegemony were to ever fade away. Easterbrook focuses on the trends that suggest an ever-decreasing amount of armed conflict -- and I hope he's right. But I'm enough of a realist to know that if the U.S. should find its primacy challenged by, say, a really populous non-democratic country on the other side of the Pacific Ocean, all best about the utility of economic interdependence, U.N. peacekeeping, and the spread of democracy are right out the window. UPDATE: To respond to a few thoughts posted by the commenters: 1) To spell things out a bit more clearly -- U.S. hegemony important to the reduction of conflict in two ways. First, U.S. power can act as a powerful if imperfect constraint on pairs of enduring rivals (Greece-Turkey, India-Pakistan) that contemplate war on a regular basis. It can't stop every conflict, but it can blunt a lot ofthem. Second, and more important to Easterbrook's thesis, U.S. supremacy in conventional military affairs prevents other middle-range states -- China, Russia, India, Great Britain, France, etc. -- from challenging the U.S. or each other in a war. It would be suicide for anyone to fight a war with the U.S., and if any of these countries waged a war with each other, the prospect of U.S. intervention would be equally daunting.

Securitization doesn’t result in war except when heg isn’t there to check it.

Gartzke 12—Erik Gartzke, University of California, San Diego, Could climate change precipitate peace?, Journal of Peace Research 49(1) 177–192, http://www.openbriefing.org/docs/JPRclimateconflict.pdf

Violent conflict occurs wherever human beings inhabit the globe. Disputes require some mechanism for resolution, whether this involves force or persuasion. When the stakes are high, the temptation to resort to violence as the final arbiter must remain strong. State monopolies on force do not refute, but instead reflect the logic of political competition. Of course, the fact that politics involves violence does not make all politics violent. The possibility of punishment or coercion is itself available to deter or compel, and therefore often prevents the exercise of force. Common conjecture about the eventuality of conflict ‘shadows’ political discourse, often making behavioral violence redundant. Political actors can anticipate when another actor is incentivized to violence and can choose to avoid provocation (Leeds & Davis, 1997). Alternately, ignorance, indifference or an inability to act can result in political violence. Scholars must thus view context, motive, and information to determine whether certain situations make force more or less likely.

Reject the infinite number of root causes that debilitate action—Focus on strategic deterrence and democracy are key to adverting crisis escalation—

John Moore 4 chaired law prof, UVA. Frm first Chairman of the Board of the US Institute of Peace and as the Counselor on Int Law to the Dept. of State, Beyond the Democratic Peace, 44 Va. J. Int'l L. 341, Lexis

[\*393] If major interstate war is predominantly a product of a synergy between a potential nondemocratic aggressor and an absence of effective deterrence, what is the role of the many traditional "causes" of war? Past, and many contemporary, theories of war have focused on the role of specific disputes between nations, ethnic and religious differences, arms races, poverty and social injustice, competition for resources, incidents and accidents, greed, fear, perceptions of "honor," and many other factors. Such factors may well play a role in motivating aggression or generating fear and manipulating public opinion. The reality, however, is that while some of these factors may have more potential to contribute to war than others, there may well be an infinite set of motivating factors, or human wants, motivating aggression. It is not the independent existence of such motivating factors for war but rather the circumstances permitting or encouraging high-risk decisions leading to war that is the key to more effectively controlling armed conflict. And the same may also be true of democide. The early focus in the Rwanda slaughter on "ethnic conflict," as though Hutus and Tutsis had begun to slaughter each other through spontaneous combustion, distracted our attention from the reality that a nondemocratic Hutu regime had carefully planned and orchestrated a genocide against Rwandan Tutsis as well as its Hutu opponents. n158 Certainly if we were able to press a button and end poverty, racism, religious intolerance, injustice, and endless disputes, we would want to do so. Indeed, democratic governments must remain committed to policies that will produce a better world by all measures of human progress. The broader achievement of democracy and the rule of law will itself assist in this progress. No one, however, has yet been able to demonstrate the kind of robust correlation with any of these "traditional" causes of war that is reflected in the "democratic peace." Further, given the difficulties in overcoming many of these social problems, an approach to war exclusively dependent on their solution may doom us to war for generations to come. [\*394] A useful framework for thinking about the war puzzle is provided in the Kenneth Waltz classic Man, the State and War, n159 first published in 1954 for the Institute of War and Peace Studies, in which he notes that previous thinkers about the causes of war have tended to assign responsibility at one of the three levels of individual psychology, the nature of the state, or the nature of the international system. This tripartite level of analysis has subsequently been widely copied in the study of international relations. We might summarize my analysis in this classical construct by suggesting that the most critical variables are the second and third levels, or "images," of analysis. Government structures, at the second level, seem to play a central role in levels of aggressiveness in high-risk behavior leading to major war. In this, the "democratic peace" is an essential insight. The third level of analysis, the international system, or totality of external incentives influencing the decision to go to war, is also critical when government structures do not restrain such high-risk behavior on their own. Indeed, nondemocratic systems may not only fail to constrain inappropriate aggressive behavior, they may even massively enable it by placing the resources of the state at the disposal of a ruthless regime elite. It is not that the first level of analysis, the individual, is unimportant - I have already argued that it is important in elite perceptions about the permissibility and feasibility of force and resultant necessary levels of deterrence. It is, instead, that the second level of analysis, government structures, may be a powerful proxy for settings bringing to power those who are disposed to aggressive military adventures and in creating incentive structures predisposed to high-risk behavior. We might also want to keep open the possibility that a war/peace model focused on democracy and deterrence might be further usefully refined by adding psychological profiles of particular leaders as we assess the likelihood of aggression and levels of necessary deterrence. Nondemocracies' leaders can have different perceptions of the necessity or usefulness of force and, as Marcus Aurelius should remind us, not all absolute leaders are Caligulas or Neros. Further, the history of ancient Egypt reminds us that not all Pharaohs were disposed to make war on their neighbors. Despite the importance of individual leaders, however, the key to war avoidance is understanding that major international war is critically an interaction, or synergy, of certain characteristics at levels two and three - specifically an absence of [\*395] democracy and an absence of effective deterrence. Yet another way to conceptualize the importance of democracy and deterrence in war avoidance is to note that each in its own way internalizes the costs to decision elites of engaging in high-risk aggressive behavior. Democracy internalizes these costs in a variety of ways including displeasure of the electorate at having war imposed upon it by its own government. And deterrence either prevents achievement of the objective altogether or imposes punishing costs making the gamble not worth the risk. n160

No environment impact

Ben Ridder 8, Phd School of Geography and Environmental Studies, University of Tasmania, “Questioning the ecosystem services argument for biodiversity conservation” Biodiversity and conservation yr:2008 vol:17 iss:4 pg:781

\*ES = environmental services

The low resilience assumption

Advocates of the conservation of biodiversity tend not to acknowledge the distinction between resilient and sensitive ES. This ‘low resilience assumption’ gives rise to, and is reinforced by the almost ubiquitous claim within the conservation literature that ES depend on biodiversity.

An extreme example of this claim is made by the Ehrlichs in Extinction. They state that “all [ecosystem services] will be threatened if the rate of extinctions continues to increase” then observe that attempts to artificially replicate natural processes “are no more than partially successful in most cases. Nature nearly always does it better. When society sacrifices natural services for some other gain… it must pay the costs of substitution” (Ehrlich and Ehrlich 1982, pp. 95–96). This assertion—that the only alternative to protecting every species is a world in which all ES have been substituted by artificial alternatives—is an extreme example of the ‘low resilience assumption’. Paul Ehrlich revisits this flawed logic in 1997 i nhis response (with four co-authors) to doubts expressed by Mark Sagoff regarding economic arguments for species conservation (Ehrlich et al. 1997, p. 101).

The claim that ES depend on biodiversity is also notably present in the controversial Issues in Ecology paper on biodiversity and ecosystem functioning (Naeem et al. 1999) that sparked the debate mentioned in the introduction. This appears to reflect a general tendency among authors in this field (e.g., Hector et al. 2001; Lawler et al. 2002; Lyons et al. 2005). Although such authors may not actually articulate the low resilience assumption, presenting such claims in the absence of any clarification indicates its influence.

That the low resilience assumption is largely false is apparent in the number of examples of species extinctions that have not brought about catastrophic ecosystem collapse and decline in ES, and in the generally limited ecosystem influence of species on the cusp of extinction. These issues have been raised by numerous authors, although given the absence of systematic attempts to verify propositions of this sort, the evidence assembled is usually anecdotal and we are forced to trust that an unbiased account of the situation has been presented. Fortunately a number of highly respected people have discussed this topic, not least being the prominent conservation biologist David Ehrenfeld. In 1978 he described the ‘conservation dilemma’, which “arises on the increasingly frequent occasions when we encounter a threatened part of Nature but can find no rational reason for keeping it” (Ehrenfeld 1981, p. 177). He continued with the following observation: Have there been permanent and significant ‘resource’ effects of the extinction, in the wild, of John Bartram’s great discovery, the beautiful tree Franklinia alatamaha, which had almost vanished from the earth when Bartram first set eyes upon it? Or a thousand species of tiny beetles that we never knew existed before or after their probable extermination? Can we even be certain than the eastern forests of the United States suffer the loss of their passenger pigeons and chestnuts in some tangible way that affects their vitality or permanence, their value to us? (p. 192) Later, at the first conference on biodiversity, Ehrenfeld (1988) reflected that most species “do not seem to have any conventional value at all” and that the rarest species are “the ones least likely to be missed… by no stretch of the imagination can we make them out to be vital cogs in the ecological machine” (p. 215). The appearance of comments within the environmental literature that are consistent with Ehrenfeld’s—and from authors whose academic standing is also worthy of respect—is uncommon but not unheard of (e.g., Tudge 1989; Ghilarov 1996; Sagoff 1997; Slobodkin 2001; Western 2001).

The low resilience assumption is also undermined by the overwhelming tendency for the protection of specific endangered species to be justified by moral or aesthetic arguments, or a basic appeal to the necessity of conserving biodiversity, rather than by emphasising the actual ES these species provide or might be able to provide humanity. Often the only services that can be promoted in this regard relate to the ‘scientific’ or ‘cultural’ value of conserving a particular species, and the tourism revenue that might be associated with its continued existence. The preservation of such services is of an entirely different order compared with the collapse of human civilization predicted by the more pessimistic environmental authors**.** The popularity of the low resilience assumption is in part explained by the increased rhetorical force of arguments that highlight connections between the conservation of biodiversity, human survival and economic profit. However, it needs to be acknowledged by those who employ this approach that a number of negative implications are associated with any use of economic arguments to justify the conservation of biodiversity.

### Kritik

The Role of the Ballot is Policy Simulation— effective energy choices depend on technical political literacy

Hodson 10 Derek, professor of education – Ontario Institute for Studies @ University of Toronto, “Science Education as a Call to Action,” Canadian Journal of Science, Mathematics and Technology Education, Vol. 10, Issue 3, p. 197-206

\*\*note: SSI = socioscientific issues

The final (fourth) level of sophistication in this issues-based approach is concerned with students findings ways of putting their values and convictions into action, helping them to prepare for and engage in responsible action, and assisting them in **developing the skills**, attitudes, and values **that will enable them to** take control of their lives, **cooperate with others to bring about change**, and work toward a more just and sustainable world in which power, wealth, and resources are more equitably shared. Socially and environmentally responsible behavior will not necessarily follow from knowledge of key concepts and possession of the “right attitudes.” As Curtin (1991) reminded us, it is important to distinguish between caring about and caring for. It is almost always much easier to proclaim that one cares about an issue than to do something about it. Put simply, our values are worth nothing until we live them. Rhetoric and espoused values will not bring about social justice and will not save the planet. We must change our actions. A politicized ethic of care (caring for) entails active involvement in a local manifestation of a particular problem or issue, exploration of the complex sociopolitical contexts in which the problem/issue is located, and attempts to resolve conflicts of interest. FROM STSE RHETORIC TO SOCIOPOLITICAL ACTION Writing from the perspective of environmental education, Jensen (2002) categorized the **knowledge** that is **likely to promote sociopolitical action** and encourage pro-environmental behavior into four dimensions: (a) **scientific and technological knowledge** that informs the issue or problem; (b) knowledge about the underlying social, political, and economic issues, conditions, and structures and how they contribute to creating social and environmental problems; (c) knowledge about how to bring about changes in society through direct or indirect action; and (d) knowledge about the likely outcome or direction of possible actions and the **desirability of those outcomes.** Although formulated as a model for environmental education, it is reasonable to suppose that Jensen's arguments are applicable to all forms of SSI-oriented action. Little needs to be said about dimensions 1 and 2 in Jensen's framework beyond the discussion earlier in the article. With regard to dimension 3, students need knowledge of actions that are likely to have positive impact and knowledge of how to engage in them. **It is essential** that they gain robust knowledge of the social, legal, and **political system(s)** that prevail in the communities in which they live and develop a clear understanding of how **decisions** are **made within** local, regional, and **national government** and within industry, commerce, and the military. Without knowledge of where and with whom power of decision making is located and awareness of the **mechanisms by which decisions are reached**, **intervention is not possible.** Thus, the curriculum I propose requires a concurrent program designed to achieve a measure of political literacy, including knowledge of how to engage in collective action with individuals who have different competencies, backgrounds, and attitudes but share a common interest in a particular SSI. Dimension 3 also includes knowledge of likely sympathizers and potential allies and strategies for encouraging cooperative action and group interventions. What Jensen did not mention but would seem to be a part of dimension 3 knowledge is the nature of science-oriented knowledge that would enable students to appraise the statements, reports, and arguments of scientists, politicians, and journalists and to present their own supporting or opposing arguments in a coherent, robust, and convincing way (see Hodson [2009b] for a lengthy discussion of this aspect of science education). Jensen's fourth category includes awareness of how (and why) others have sought to bring about change and entails formulation of a vision of the kind of world in which we (and our families and communities) wish to live. It is important for students to explore and develop their ideas, dreams, and aspirations for themselves, their neighbors and families and for the wider communities at local, regional, national, and global levels—a clear overlap with futures studies/education. An essential step in cultivating the critical scientific and technological literacy on which **sociopolitical action depends** is the application of a social and political critique capable of challenging the notion of technological determinism. We can control technology and its environmental and social impact. More significantly, we can control the controllers and redirect technology in such a way that adverse environmental impact is substantially reduced (if not entirely eliminated) and issues of freedom, equality, and justice are kept in the forefront of discussion during the **establishment of policy**.

Evaluate these impacts – consequences matter

Isaac, 2002 (Jeffrey C., James H. Rudy professor of Political Science and director of the Center for the Study of Democracy and Public Life at Indiana University, Bloomington, “Ends, Means and politics,” *Dissent*, Spring)

As writers such as Niccolo Machiavelli,Max Weber, Reinhold Niebuhr, and HannahArendt have taught, an unyielding concern with moral goodness undercuts political responsibility.The concern may be morally laudable, reflectinga kind of personal integrity, but it suffersfrom three fatal flaws: (1) It fails to see that the purity of one’s intention does not ensure the achievement of what one intends. Abjuring violence or refusing to make commoncause with morally compromised parties may seem like the right thing; but if such tactics entail impotence, then it is hard to view them as serving any moral good beyond the clean conscience of their supporters; (2) it fails to see that in a world of real violence and injustice, moral purity is not simply a form of powerlessness; it is often a form of complicity in injustice. This is why, from the standpoint of politics—as opposed to religion—pacifism is alwaysa potentially immoral stand. In categorically repudiatingviolence, it refuses in principle tooppose certain violent injustices with any effect;and (3) it fails to see that politics is as much about unintended consequences as it is about intentions; it is the effects of action, rather than the motives of action, that is most significant. Just as the alignment with “good”may engender impotence, it is often the pursuit of “good” that generates evil. This is thelesson of communism in the twentieth century:it is not enough that one’s goals be sincere oridealistic; it is equally important, always, to askabout the effects of pursuing these goals andto judge these effects in pragmatic and historicallycontextualized ways. Moral absolutism inhibits this judgment. It alienates those who are not true believers. It promotes arrogance. And it undermines political effectiveness.

Prior questions are irrelevant and debilitate action—

Owen 2 (university of Southampton, David Owen, Reader of Political Theory at the Univ. of Southampton, Millennium Vol 31 No 3 2002 p. 655-7)

Commenting on the ‘philosophical turn’ in IR, Wæver remarks that ‘[a] frenzy for words like “epistemology” and “ontology” often signals this philosophical turn’, although he goes on to comment that these terms are often used loosely.4 However, loosely deployed or not, it is clear that debates concerning ontology and epistemology play a central role in the contemporary IR theory wars. In one respect, this is unsurprising since it is a characteristic feature of the social sciences that periods of disciplinary disorientation involve recourse to reflection on the philosophical commitments of different theoretical approaches, and there is no doubt that such reflection can play a valuable role in making explicit the commitments that characterise (and help individuate) diverse theoretical positions. Yet, such a philosophical turn is not without its dangers and I will briefly mention three before turning to consider a confusion that has, I will suggest, helped to promote the IR theory wars by motivating this philosophical turn. The first danger with the philosophical turn is that it has an inbuilt tendency to prioritise issues of ontology and epistemology over explanatory and/or interpretive power as if the latter two were merely a simple function of the former. But while the explanatory and/or interpretive power of a theoretical account is not wholly independent of its ontological and/or epistemological commitments (otherwise criticism of these features would not be a criticism that had any value), it is by no means clear that it is, in contrast, wholly dependent on these philosophical commitments. Thus, for example, one need not be sympathetic to rational choice theory to recognisethatit can provide powerful accounts of certainkinds of problems, such as the tragedy of the commons in which dilemmas of collective action are foregrounded. It may, of course, be the case that the advocates of rational choice theory cannot give a good account of why this type of theory is powerful in accounting for this class of problems (i.e., how it is that the relevant actors come to exhibit features in these circumstances that approximate the assumptions of rational choice theory) and, if this is the case, it is a philosophical weakness—but this does not undermine the point that, for a certain class of problems, rational choice theory may provide the best account available to us. In other words, while the critical judgement of theoretical accounts in terms of their ontological and/or epistemological sophistication is one kind of critical judgement, it is not the only or even necessarily the most important kind. The second danger run by the philosophical turn is that because prioritisation of ontology andepistemology promotes theory-construction from philosophical first principles, it cultivates a theory-driven rather than problem-driven approach to IR. Paraphrasing Ian Shapiro, the point can be put like this: since it is the case that there is always a plurality of possible true descriptions of a given action, event or phenomenon, the challenge is to decide which is the most apt in terms of getting a perspicuous grip on the action, event or phenomenon in question given the purposes of the inquiry; yet, from this standpoint, ‘theory-driven work is part of a reductionist program’ in that it ‘dictates always opting for the description that calls for the explanation that flows from the preferred model or theory’.5 The justification offered for this strategy rests on the mistaken belief that it is necessary for social science because general explanations are required to characterise the classes of phenomena studied in similar terms. However, as Shapiro points out, this is to misunderstand the enterprise of science since ‘whether there are general explanations for classes of phenomenais a question for social-scientific inquiry, not to be prejudged before conducting that inquiry’.6 Moreover, this strategy easily slips into the promotion of the pursuit of generality over that of empirical validity. The third danger is that the preceding two combine to encourage the formation of a particular image of disciplinary debate in IR—what might be called (only slightly tongue in cheek) ‘the Highlander view’—namely, an image of warring theoretical approaches with each, despite occasional temporary tactical alliances, dedicated to the strategic achievement of sovereignty over the disciplinary field. It encourages this view because the turn to, and prioritisation of, ontology and epistemology stimulates the idea that there can only be one theoretical approach which gets things right, namely, the theoretical approach that gets its ontology and epistemology right. This image feeds back into IR exacerbating the first and second dangers, and so a potentially vicious circle arises.

Instrumental rationality whereby we value ourselves above the objects we encounter is the only way to meaningfully assign value to the natural world and gives us reason not to selfishly destroy it

Kyung-Sig 2003 Prof. Hwang, Kyung-sig, Department of Philosophy, Seoul National University, Korea "10.1 Apology for Environmental Anthropocentrism" Eubios Ethics Institute
<http://www.eubios.info/ABC4/abc4304.htm>

Galileo's astronomy forced us to convert a literal to a perspective understanding of the claim that the sun is setting. His physics gave us the distinction, elaborated by John Locke, between primary and secondary qualities. A secondary quality is observer dependent, manufactured out of the primary motions of matter. Color is an experiential conversion of photon radiation; taste and smell are molecular operations. Coached by these theories, what is then to be said of value? If the sunset is not literally a setting sun, not even red, then surely it is not literally beautiful. Samuel Alexander proposed that values were tertiary qualities. Humans agree about redness, owing to their having the same organs, but value appraisals require an interpretive judgment twice removed from the qualities actually there.¶ By this account, we have no organs to taste, touch, see or smell value. So it must originate at a deeper mental level. We have no options in judging length or redness. Such experiences happen to us without any liberty to refuse them. The primary and secondary qualities are always there in the scope of consciousness. They perhaps fall into the background, but they never turn off during perception. Value judgments, by contrast, have to be decided. Beauty and utility are things we must attend to. When our minds turn aside to other thoughts, though still perceiving the object, such values entirely disappear from consciousness. Both primary and secondary qualities are in this sense empirical or natural. But finding nothing that produces consensus or proves researchable, most judges become convinced that these tertiary qualities are overlays, not really they're in the natural world. They are observer-dependent, gifts of the spectator's mind.[[6]](http://www.eubios.info/ABC4/abc4304.htm#6) ¶ But I don't want to say I am radical subjectivist in value theory. Rather I agreed with an admirable account of C. I. Lewis. He hedges, and grants that natural objects carry, objectively extrinsic value, in effect, the standing possibility of valuation. They actually have a potential for value, even if this forever remains inexperienced or is mistakenly experienced. When an experience arrives, such objects do not refer us away from themselves, but we enjoy them for what they are. Nevertheless, they cannot own any intrinsic value. No objective existent has strictly intrinsic value; all values in objects are extrinsic only. The Goodness of good objects consists in the possibility of their leading to some realization of directly experienced goodness.[[7]](http://www.eubios.info/ABC4/abc4304.htm#7) ¶ Indeed, it is so narrow to deny value to all nonhuman elements of nature. The sheer exploitation of nature based on insensitivity to the ecological interrelatedness of life systems is mistaken. But this does not rule out the view that other things in nature are valuable, as W. H. Murdy states, "as instruments to man's survival or well-being". In fact as acknowledgement of our dependent relationships with nature grows, he writes, we place instrumental value on an ever-greater variety of things.[[8]](http://www.eubios.info/ABC4/abc4304.htm#8) We value the ozone shield more highly when we realize it protects us from excessive radiation. We value phytoplankton in the oceans when we recognize that these organisms provide much of the earth's free oxygen, and so on. Greater sensitivity to the causal chains in nature will make us acknowledge an enormous range of instrumental value that other parts of the biosphere process. But for me, that is all part and parcel of a sophisticated anthropocentrism.

This link is not grounded in IR theory- Their evidence is form a Canadian journalist that attempts to explain why everyone is unhappy

The alternative is impossible and ensures mass-suffering – Justice won’t replace the need for consumption

Barnhizer ‘6—David R. Emeritus Professor at Cleveland State University’s Cleveland-Marshall College of Law; “Waking from Sustainability's "Impossible Dream": The Decisionmaking Realities of Business and Government.” 2006 Georgetown International Environmental Law Review. 18 Geo. Int'l Envtl. L. Rev. 595 L/N

We face a combination of ecological, social, and economic crises. These crises involve the ability to fund potentially conflicting obligations for the provision of social benefits, health care, education, pensions, and poverty alleviation. They also include the need for massive expenditures to "fix" what we have already broken. n59 Part of the challenge is that in the United States and Europe we have made fiscal promises that we cannot keep. We also have vast economic needs for [\*620] continuing wealth generation as a precondition for achieving social equity on national and global levels. Figuring out how to reduce some of those obligations, eliminate others, and rebuild the core and vitality of our system must become a part of any honest social discourse. Even Pollyanna would be overwhelmed by the choices we face. There will be significant pain and sacrifice in any action we take. But failing to take prompt and effective action will produce even more catastrophic consequences.

The scale of social needs, including the need for expanded productive activity, has grown so large that it cannot be shut off at all, and certainly not abruptly. It cannot even be ratcheted down in any significant fashion without producing serious harms to human societies and hundreds of millions of people. Even if it were possible to shift back to systems of local self-sufficiency, the consequences of the transition process would be catastrophic for many people and even deadly to the point of continual conflict, resource wars, increased poverty, and strife. What are needed are concrete, workable, and pragmatic strategies that produce effective and intelligently designed economic activity in specific contexts and, while seeking efficiency and conservation, place economic and social justice high on a list of priorities. n60

The imperative of economic growth applies not only to the needs and expectations of people in economically developed societies but also to people living in nations that are currently economically underdeveloped. Opportunities must be created, jobs must be generated in huge numbers, and economic resources expanded to address the tragedies of poverty and inequality. Unfortunately, natural systems must be exploited to achieve this; we cannot return to Eden. The question is not how to achieve a static state but how to achieve what is needed to advance social justice while avoiding and mitigating the most destructive consequences of our behavior.

Many developing country groups involved in efforts to protect the environment and resist the impacts of free trade on their communities have been concerned with the harmful effects of economic change. Part of the concern is the increased scale of economic activity. Some concerns relate to who benefits and who loses in the changing context imposed by globalization. These concerns are legitimate and understandable. So are the other deep currents running beneath their political positions, including those of resistance to change of any kind and a [\*621] rejection of the market approach to economic activities. In the system described inaccurately as free market capitalism, economic activity not only breaks down existing systems, it creates new systems and--as Joseph Schumpeter observed--continually repeats the process through cycles of "creative destruction." n61 This pattern of creative destruction unfolds as necessarily and relentlessly as does the birth-maturation-death-rebirth cycle of the natural environment. This occurs even in a self-sufficient or autarkic market system capable of managing all variables within its closed dominion. But when the system breaks out of its closed environment, the ability of a single national actor to control the system's dynamics erodes and ultimately disappears in the face of differential conditions, needs, priorities, and agendas.

Globalization's ability to produce wealth for a particular group simultaneously produces harms to different people and interests and generates unfair resource redistribution within existing cultures. This is an unavoidable consequence of globalization. n62 The problem is that globalization has altered the rules of operation of political, economic, and social activities, and in doing so multiplied greatly our ability to create benefit and harm. n63 While some understandably want the unsettling and often chaotic effects of globalization to go away, it can only be dealt with, not reversed. The system in which we live and work is no longer closed. There are few contexts not connected to the dynamics of some aspect of the extended economic and social systems resulting from globalization. This means the wide ranging and incompatible variables of a global economic, human rights, and social fairness system are resulting in conflicts and unanticipated interpenetrations that no one fully understands, anticipates, or controls. n64 Local [\*622] self-sufficiency is the loser in this process. It can remain a nostalgic dream but rarely a reality. Except for isolated cultures and niche activities, there is very little chance that anyone will be unaffected by this transformational process. Change is the constant, and it will take several generations before we return to a period of relative stasis. Even then it will only be a respite before the pattern once again intensifies.

The impact is lash out and extinction—

Kothari, 82 (professor of poli sci at U of Delhi, “Towards a Just Social Order,” p. 571)

Attempts at global economic reform could also lead to a world racked by increasing turbulence, a greater sense of insecurity among the major centers of power – and hence to a further tightening of the structures of domination and domestic repression – producing in their wake an intensification of the old arms race and militarization of regimes, encouraging regional conflagrations and setting the stage for an eventual global holocaust.

Surplus insulates us from oil shocks that collapse the economy ensures wars that go nuclear

Growth Does-and it’s sustainable—

Norberg 3 – Senior Fellow @ CATO, Johan In Defense of Global Capitalism, p.224-37

The notion that there has to be a conflict runs into the same problem as the whole idea of a race to the bottom: it doesn’t tally with reality. There is no exodus of industry to countries with poor environmental standards, and there is no downward pressure on the level of global environmental protection. Instead, the bulk of American and European investments goes to countries with environmental regulations similar to their own. There has been much talk of American factories moving to Mexico since NAFTA was signed. Less well known, however, is that since free trade was introduced Mexico has tightened up its environmental regula- tions, following a long history of complete nonchalance about environmental issues. This tightening up is part of a global trend. All over the world, economic progress and growth are moving hand in hand with intensified environmental protection. Four researchers who studied these connections found ‘‘a very strong, positive association between our [environmental] indicators and the level of economic development.’’ A country that is very poor is too preoccupied with lifting itself out of poverty to bother about the environment at all. Countries usually begin protecting their natural resources when they can afford to do so. When they grow richer, they start to regulate effluent emissions, and when they have still more resources they also begin regulating air quality.19 A number of factors cause environment protection to increase with wealth and development. Environmental quality is unlikely to be a top priority for people who barely know where their next meal is coming from. Abating misery and subduing the pangs of hunger takes precedence over conservation. When our standard of living rises we start attaching importance to the environment and obtaining resources to improve it. Such was the case earlier in western Europe, and so it is in the developing countries today. Progress of this kind, however, requires that people live in democ- racies where they are able and allowed to mobilize opinion; other- wise, their preferences will have no impact. Environmental destruction is worst in dictatorships. But it is the fact of prosperity no less than a sense of responsibility that makes environmental protection easier in a wealthy society. A wealthier country can afford to tackle environmental

problems; it can develop environ- mentally friendly technologies—wastewater and exhaust emission control, for example—and begin to rectify past mistakes. Global environmental development resembles not so much a race for the bottom as a race to the top, what we might call a ‘‘California effect.’’ The state of California’s Clean Air Acts, first introduced in the 1970s and tightened since, were stringent emis- sions regulations that made rigorous demands on car manufactur- ers. Many prophets of doom predicted that firms and factories would move to other states, and California would soon be obliged to repeal its regulations. But instead the opposite happened: other states gradually tightened up their environmental stipulations. Because car companies needed the wealthy California market, manufacturers all over the United States were forced to develop new techniques for reducing emissions. Having done so, they could more easily comply with the exacting requirements of other states, whereupon those states again ratcheted up their requirements. Anti-globalists usually claim that the profit motive and free trade together cause businesses to entrap politicians in a race for the bottom. The California effect implies the opposite: free trade enables politicians to pull profit-hungry corporations along with them in a race to the top. This phenomenon occurs because compliance with environ- mental rules accounts for a very small proportion of most compa- nies’ expenditures. What firms are primarily after is a good busi- ness environment—a lall iberal economy and a skilled workforce— not a bad natural environment. A review of research in this field shows that there are no clear indications of national environmental rules leading to a diminution of exports or to fewer companies locating in the countries that pass the rules.20 This finding under- mines both the arguments put forward by companies against environmental regulations and those advanced by environmental- ists maintaining that globalization has to be restrained for environ- mental reasons. Incipient signs of the California effect’s race to the top are present all over the world, because globalization has caused differ- ent countries to absorb new techniques more rapidly, and the new techniques are generally far gentler on the environment. Researchers have investigated steel manufacturing in 50 different countries and concluded that countries with more open economies took the lead in introducing cleaner technology. Production in those countries generated almost 20 percent less emissions than the same production in closed countries. This process is being driven by multinational corporations because they have a lot to gain from uniform production with uniform technology. Because they are restructured more rapidly, they have more modern machinery. And they prefer assimilating the latest, most environ- mentally friendly technology immediately to retrofitting it, at great expense, when environmental regulations are tightened up. Brazil, Mexico, and China—the three biggest recipients of foreign investment—have followed a very clear pattern: the more investments they get, the better control they gain over air pollu- tion. The worst forms of air pollution have diminished in their cities during the period of globalization. When Western compa- nies start up in developing countries, their production is consider- ably more environment-friendly than the native production, and they are more willing to comply with environmental legislation, not least because they have brand images and reputations to protect. Only 30 percent of Indonesian companies comply with the country’s environmental regulations, whereas no fewer than 80 percent of the multinationals do so. One out of every 10 foreign companies maintained a standard clearly superior to that of the regulations. This development would go faster if economies were more open and, in particular, if the governments of the world were to phase out the incomprehensible tariffs on environmentally friendly technology.21 Sometimes one hears it said that, for environmental reasons, the poor countries of the South must not be allowed to grow as affluent as our countries in the North. For example, in a compila- tion of essays on Environmentally Significant Consumption pub- lished by the National Academy of Sciences, we find anthropolo- gist Richard Wilk fretting that: If everyone develops a desire for the Western high-consumption lifestyle, the relentless growth in consumption, energy use, waste, and emissions may be disastrous.22 But studies show this to be colossal misapprehension. On the contrary, it is in the developing countries that we find the gravest, most harmful environmental problems. In our affluent part of the world, more and more people are mindful of environmental problems such as endangered green areas. Every day in the develop- ing countries, more than 6,000 people die from air pollution when using wood, dung, and agricultural waste in their homes as heating and cooking fuel. UNDP estimates that no fewer than 2.2 million people die every year from polluted indoor air. This result is already ‘‘disastrous’’ and far more destructive than atmo- spheric pollution and industrial emissions. Tying people down to that level of development means condemning millions to pre- mature death every year. It is not true that pollution in the modern sense increases with growth. Instead, pollution follows an inverted U-curve. When growth in a very poor country gathers speed and the chimneys begin belching smoke, the environment suffers. But when prosperity has risen high enough, the environmental indicators show an improvement instead: emissions are reduced, and air and water show progressively lower concentrations of pollutants. The cities with the worst problems are not Stockholm, New York, and Zu ̈rich, but rather Beijing, Mexico City, and New Delhi. In addition to the factors already mentioned, this is also due to the economic structure changing from raw-material-intensive to knowledge-intensive production. In a modern economy, heavy, dirty industry is to a great extent superseded by service enterprises. Banks, consulting firms, and information technology corporations do not have the same environmental impact as old factories. According to one survey of available environmental data, the turning point generally comes before a country’s per capita GDP has reached $8,000. At $10,000, the researchers found a positive connection between increased growth and better air and water quality.23 That is roughly the level of prosperity of Argentina, South Korea, or Slovenia. In the United States, per capita GDP is about $36,300. Here as well, the environment has consistently improved since the 1970s, quite contrary to the picture one gets from the media. In the 1970s there was constant reference to smog in American cities, and rightly so: the air was judged to be unhealthy for 100–300 days a year. Today it is unhealthy for fewer than 10 days a year, with the exception of Los Angeles. There, the figure is roughly 80 days, but even that represents a 50 percent reduction in 10 years.24 The same trend is noticeable in the rest of the affluent world—for example, in Tokyo, where, a few decades ago, doomsayers believed that oxygen masks would in the future have to be worn all around the city because of the bad air. Apart from its other positive effects on the developing countries, such as ameliorating hunger and sparing people the horror of watching their children die, prosperity beyond a certain critical point can improve the environment. What is more, this turning point is now occurring progressively earlier in the developing countries, because they can

learn from more affluent countries’ mistakes and use their superior technology. For example, air qual- ity in the enormous cities of China, which are the most heavily polluted in the world, has steadied since the mid-1980s and in several cases has slowly improved. This improvement has coin- cided with uniquely rapid growth. Some years ago, the Danish statistician and Greenpeace mem- ber Bjørn Lomborg, with about 10 of his students, compiled statistics and facts about the world’s environmental problems. To his astonishment, he found that what he himself had regarded as self-evident, the steady deterioration of the global environment did not agree at all with official empirical data. He found instead that air pollution is diminishing, refuse problems are diminishing, resources are not running out, more people are eating their fill, and people are living longer. Lomborg gathered publicly available data from as many fields as he could find and published them in the book The Skeptical Environmentalist: Measuring the Real State of the World. The picture that emerges there is an important corrective to the general prophesies of doom that can so easily be imbibed from newspaper headlines. Lomborg shows that air pollution and emissions have been declining in the developed world during recent decades. Heavy metal emissions have been heavily reduced; nitrogen oxides have diminished by almost 30 percent and sulfur emissions by about 80 percent. Pollution and emission problems are still growing in the poor developing countries, but at every level of growth annual particle density has diminished by 2 percent in only 14 years. In the developed world, phosphorus emissions into the seas have declined drastically, and E. coli bacteria concentrations in coastal waters have plummeted, enabling closed swimming areas to reopen. Lomborg shows that, instead of large-scale deforestation, the world’s forest acreage increased from 40.24 million to 43.04 million square kilometers between 1950 and 1994. He finds that there has never been any large-scale tree death caused by acid rain. The oft-quoted, but erroneous statement about 40,000 species going extinct every year is traced by Lomborg to its source—a 20-year-old estimate that has been circulating in environmentalist circles ever since. Lomborg thinks it is closer to 1,500 species a year, and possibly a bit more than that. The documented cases of extinction during the past 400 years total just over a thousand species, of which about 95 percent are insects, bacteria, and viruses. As for the problem of garbage, the next hundred years worth of Danish refuse could be accommodated in a 33-meter-deep pit with an area of three square kilometers, even without recycling. In addition, Lomborg illustrates how increased prosperity and improved technology can solve the problems that lie ahead of us. All the fresh water consumed in the world today could be produced by a single desalination plant, powered by solar cells and occupying 0.4 percent of the Sahara Desert. It is a mistake, then, to believe that growth automatically ruins the environment. And claims that we would need this or that number of planets for the whole world to attain a Western stan- dard of consumption—those ‘‘ecological footprint’’ calcula- tions—are equally untruthful. Such a claim is usually made by environmentalists, and it is concerned, not so much with emissions and pollution, as with resources running out if everyone were to live as we do in the affluent world. Clearly, certain of the raw materials we use today, in present- day quantities, would not suffice for the whole world if everyone consumed the same things. But that information is just about as interesting as if a prosperous Stone Age man were to say that, if everyone attained his level of consumption, there would not be enough stone, salt, and furs to go around. Raw material consump- tion is not static. With more and more people achieving a high level of prosperity, we start looking for ways of using other raw materials. Humanity is constantly improving technology so as to get at raw materials that were previously inaccessible, and we are attaining a level of prosperity that makes this possible. New innovations make it possible for old raw materials to be put to better use and for garbage to be turned into new raw materials. A century and a half ago, oil was just something black and sticky that people preferred not to step in and definitely did not want to find beneath their land. But our interest in finding better energy sources led to methods being devised for using oil, and today it is one of our prime resources. Sand has never been all that exciting or precious, but today it is a vital raw material in the most powerful technology of our age, the computer. In the form of silicon—which makes up a quarter of the earth’s crust— it is a key component in computer chips. There is a simple market mechanism that averts shortages. If a certain raw material comes to be in short supply, its price goes up. This makes everyone more interested in economizing on that resource, in finding more of it, in reusing it, and in trying to find substitutes for it. The trend over the last few decades of falling raw material prices is clear. Metals have never been as cheap as they are today. Prices are falling, which suggests that demand does not exceed supply. In relation to wages, that is, in terms of how long we must work to earn the price of a raw material, natural resources today are half as expensive as they were 50 years ago and one-fifth as expensive as they were a hundred years ago. In 1900 the price of electricity was eight times higher, the price of coal seven times higher, and the price of oil five times higher than today.25 The risk of shortage is declining all the time, because new finds and more efficient use keep augmenting the available reserves. In a world where technology never stops developing, static calculations are uninteresting, and wrong. By simple mathematics, Lomborg establishes that if we have a raw material with a hundred years’ use remaining, a 1 percent annual increase in demand, and a 2 percent increase in recycling and/or efficiency, that resource will never be exhausted. If shortages do occur, then with the right technology most substances can be recycled. One-third of the world’s steel produc- tion, for example, is being reused already. Technological advance can outstrip the depletion of resources. Not many years ago, everyone was convinced of the impossibility of the whole Chinese population having telephones, because that would require several hundred million telephone operators. But the supply of manpower did not run out; technology developed instead. Then it was declared that nationwide telephony for China was physically impossible because all the world’s copper wouldn’t suffice for installing heavy gauge telephone lines all over the country. Before that had time to become a problem, fiber optics and satellites began to supersede copper wire. The price of copper, a commodity that people believed would run out, has fallen continuously and is now only about a tenth of what it was 200 years ago. People in most ages have worried about important raw materials becoming exhausted. But on the few occasions when this has happened, it has generally affected isolated, poor places, not open, affluent ones. To claim that people in Africa, who are dying by the thousand every day from supremely real shortages, must not be allowed to become as prosperous as we in the West because we can find theoretical risks of shortages occurring is both stupid and unjust. The environmental question will not resolve itself. Proper rules are needed for the protection of water, soil, and air from destruc- tion. Systems of emissions fees are needed to give polluters an interest in not damaging the environment for others. Many envi- ronmental issues also require international regulations and agree- ments, which confront us with entirely new challenges. Carbon dioxide emissions, for example, tend to increase rather than dimin- ish when a country grows more affluent. When talking about the market and the environment, it is important to realize that efforts in this quarter will be facilitated by a freer, growing economy capable of using the best solutions, from both a natural and a human viewpoint. In order to meet those challenges, it is better to have resources and advanced science than not to have them. Very often, environmental improvements are due to the very capitalism so often blamed for the problems. The introduction of private property creates owners with long-term interests. Land- owners must see to it that there is good soil or forest there tomorrow as well, because otherwise they will have no income later on, whether they continue using the land or intend to sell it. If the property is collective or government-owned, no one has any such long-term interest. On the contrary, everyone then has an interest in using up the resources quickly before someone else does. It was because they were common lands that the rain forests of the Amazon began to be rapidly exploited in the 1960s and 1970s and are still being rapidly exploited today. Only about a 10th of forests are recognized by the governments as privately owned, even though in practice Indians possess and inhabit large parts of them. It is the absence of definite fishing rights that causes (heavily subsidized) fishing fleets to try to vacuum the oceans of fish before someone else does. No wonder, then, that the most large-scale destruction of environment in history has occurred in the communist dictatorships, where all ownership was collective. A few years ago, a satellite image was taken of the borders of the Sahara, where the desert was spreading. Everywhere, the land was parched yellow, after nomads had overexploited the common lands and then moved on. But in the midst of this desert environ- ment could be seen a small patch of green. This proved to be an area of privately owned land where the owners of the farm pre- vented overexploitation and engaged in cattle farming that was profitable in the long term.26

Cant overcome societal trends

Carolan, 4-

 (Michael S., Departments of Sociology and Environmental Studies, Whitman College, “Ecological Modernization Theory: What About Consumption?,” Society & Natural Resources, Volume 17, Issue 3, pg. 247-260, Taylor and Francis, pdf)

While in some respects **our age** is a postmaterial one, it **is** in other respects still very much **the proverbial 800-pound material gorilla**. Few in this world are ready to give up on jewelry, cars, big-screen televisions, and computers, although many would like them produced in as ‘‘green’’ a manner as possible. And the billions that do not yet possess these items are far from giving up on the idea of one day having them in their possession (Renner and Sampat 2002). We must not base our hopes on a total dematerializing of the economy, for **such hope is a chimera**. Consumption will always be tied to the material world, to some extent, and as such consumption will always be tied to the environment. As noted by Michael Redclift (1996, 3), increased production requires increased consumption in ‘‘both volume and kind.’’

Consumption is inevitable

Wapner and Willoughby, 5-

 (Paul, Associate Professor and Director of the Global Environmental Politics program, School of International Service at American University, and John, Professor of Economics at American University, Chair of the Department of Economics, “The Irony of Environmentalism: The Ecological Futility but Political Necessity of Lifestyle Change,” Ethics & International Affairs, Volume 19, Issue 3, December 2005, pg. 77-89, Wiley Online Library, pdf)

Considering what would happen if a group of environmentalists decided to cut back on their use of a key resource can also make this point. Let’s say, for example, that I reduce my water consumption in an effort to save fresh water. There is no question that this immediately reduces demand on water and thus helps to conserve a limited resource. But, in the act of doing so, I also pay less to the water utility provider, and thus have more discretionary income. **If I spend** the **money I save** by not consuming water **on other** resource-involved **goods** or activities, especially ones **that indirectly use water** (such as many manufactured goods), **the net environmental impact** of my decision **may be hard to discern**. If I invest my savings in conventional financial mechanisms, I will probably still end up inducing environmental harm. In short, resource restraint by some may not translate directly into a collective reduction in resource use. **This underlines** the **difﬁculty of protecting** the **environment through campaigns to change** individual **consumption patterns**.