# 1AC

## Plan

#### The United States federal government should create a prize system for electricity production of space solar power in the United States.

## Contention One is Air Power

#### The Air Force is facing an energy crisis – it threatens future power projection capabilities

Donley & Schwartz 12 –Michael Donley, Secretary of the Air Force AND\*\*\* Norton Schwartz, USAF General, Jan 31st, 2012, "Energy Horizons: United States Air Force Energy S&T Vision 2011-2026,"

The Air Force faces daunting energy challenges which promise only to **increase in severity given increased global demand** for energy, diminishing global energy supplies, and demands for enhanced environmental stewardship. The Air Force requires access to energy and technologies to efficiently utilize this energy that provide distinct advantages over our adversaries—an assured energy advantage‘—across the air, space, cyberspace, and infrastructure domains. These needs are driven by our national security strategy to reduce reliance on foreign petroleum, federal mandates for efficiency and emission reductions, and the need to simultaneously meet mission requirements. The Air Force spends over $8 billion in aviation fuel each year, which is exacerbated by unpredictable prices and contingencies. Energy independence, however, is not only about saving money, but also about saving lives of energy distributers. Our **adversaries increasingly target energy as a center of gravity.** In 2004, Osama bin Laden ordered his operatives to "focus your operations on oil ... since this will cause the (Americans) to die off." To date over 3000 American soldiers and contractors have been killed or wounded protecting supply convoys in Iraq and Afghanistan (approximately one life per 30 convoys), 80% of which are primarily fuel and water. **An assured energy advantage promises our forces will be more** suitable (**adaptable** to a range of environments), **sustainable** (fiscally, environmentally, and renewably), **and secure** now and in the future.

#### SPS is key to air power – the perception alone solves great power war

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But so far at least, the reaction seems more consistent with the worry expressed by Friedman that the United States, as compared to China, had lost its “can-do” spirit in the early twenty-first century.29 Airmen, as stewards of America’s aerospace power, should not be so complacent. Understanding the critical link between dual-use infrastructure that contributes to access and on-orbit capabilities, an Air Force strategist might then take a much less complacent view of international competition. There are no battles in this strategy; each side is merely trying to outdo in performance the equipment of the other. . . . Its tactics are industrial, technical, and financial. . . . A silent and apparently peaceful war is therefore in progress, but it could well be a war which of itself could be decisive. —General d’Armee Andre Beaufre For years **the Air Force has kept the** United States **out of** a **major war and kept the world from another** global conflict **by maintaining technological preeminence** and overmatch, practicing what a Cold War textbook called a “Strategy of Technology”: The Technological War is the decisive struggle in the Protracted Conflict. Victory in the Technological War **gives supremacy in all other phases of the conflict**. . . . The Technological War creates the resources to be employed in all other parts of the Protracted Conflict. It governs the range of strategies that can be adapted in actual or hot war. . . . Military superiority or even supremacy is not permanent, and never ends the conflict unless it is used. The United States considers the Technological War as an infinite game: one which is not played out to a decisive victory. We are committed to a grand strategy of defense, and will never employ a decisive advantage to end the conflict by destroying our enemies. Consequently, we must maintain not only military superiority but [also] technological supremacy. The race is an alternative to destructive war, not the cause of military conflict. . . . The United States is dedicated to a strategy of stability. We are a stabilizing rather than a disturbing power, and our goal is preserving the status quo and the balance of power rather than seeking conquest and the final solution to the problems of international conflict through occupation or extermination of all opponents. In a word, the U.S. sees the Technological War as an infinite game, one played for the sake of continuing to play, rather than for the sake of “victory” in the narrow sense. 30 That is not to imply that Airmen should recommend a zero-sum orientation toward SBSP competition, only that America should get its head in this game. Because it is the policy of the United States to pursue international cooperation in space and take the lead in multilateral efforts which enhance stability and transparency in space, Airmen must consider not only the threat of losing an important technical competition but also the opportunity international cooperation could provide to advance US interests through partnerships in the domains under their stewardship. Aerospace competition is not only technical; it also has an aspirational moral dimension, as nations are measured, admired, and respected not only by their accomplishments but also by their ambitions. Former USAF strategist Col John Boyd made clear the strategic value of vision: “What is needed is a vision rooted in human nature so noble, so attractive that it not only **attracts the uncommitted and magnifies** the spirit and **strength of** its **adherents, but also undermines** the dedication and **determination of any** competitors and **adversaries.**” 31

#### SPS is the only energy that can solve

**Arkin 12** – Editor, NBC Universal (Daniel, 2/22/12, “Air Force Plans Nuke-Powered Spacecraft, Space-Based Power Stations”, http://www.nbclosangeles.com/news/tech/NATL-Report-US-Air-Force-Plans-Energy-Revolution-139967283.html)

The [USAF] United States Air Force plans to institute revolutionary changes over the next fifteen years designed to meet the energy challenges of the twenty-first century. In a publicly-available official report issued earlier this month, **the USAF unveils a sweeping new paradigm for energy** science and technology. According to an exhaustive summary at Space.com, the report discloses wide-ranging USAF-backed initiatives to boost energy supply, cut back on demand, and fundamentally alter military protocol to suit cutting-edge mission needs. Perhaps most significantly, the report—formally titled "Energy Horizons: United States Air Force Energy S&T Vision 2011-2026"—augurs the development of space-based power stations and the use of spacecraft powered by nuclear reactors on Earth. "Energy is a center of gravity in war and an assured energy advantage can enable victory," Mark Maybury, chief scientist for the USAF, said in remarks appended to the report. Space.com highlights the report's prospective model for a Space Solar Power System (SBSP) that might beam solar power to Earth via laser transmission. This radical conception of energy has been in research since the early 1970s. Major technological advancements in the SBPS method could be completely revolutionary, the report says.

#### Air power is key to hegemony – it independently prevents US-China war

Dunlap 6 – Maj. General, deputy judge advocate of the Air Force, National War College graduate with over 30 years of Armed Forces Experience, Charles Jr., Armed Forces Journal, “America’s Asymmetric Advantage”, http://www.armedforcesjournal.com/2006/09/2009013

So where does that leave us? If we are smart, we will have a well-equipped high-technology air power capability. Air power is America’s asymmetric advantage and is really the only military capability that can be readily applied across the spectrum of conflict, including, as is especially important these days, potential conflict. Consider the record. It was primarily air power, not land power, that kept the Soviets at bay while the U.S. won the Cold War. And it was not just the bomber force and the missileers; it was the airlifters, as well. There are few strategic victories in the annals of military history more complete and at so low a human cost as that won by American pilots during the Berlin airlift. Armageddon was avoided. And the flexibility and velocity of air power also provides good-news stories in friendly and low-threat areas. For example, huge U.S. transports dropping relief supplies or landing on dirt strips in some area of humanitarian crisis get help to people on a timeline that can make a real difference. Such operations also illustrate, under the glare of the global media, the true American character the world needs to see more often if our strategic goals are to be achieved. Air power also doesn’t have the multi-aspect vulnerabilities that boots on the ground do. It can apply combat power from afar and do so in a way that puts few of our forces at risk. True, occasionally there will be a Francis Gary Powers, and certainly the Vietnam-era POWs — mostly airmen — became pawns for enemy exploitation. Yet, if America maintains its aeronautical superiority, the enemy will not be able to kill 2,200 U.S. aviators and wound another 15,000, as the ragtag Iraqi terrorists have managed to do to our land forces. And, of course, bombs will go awry. Allegations will be made (as they are currently against the Israelis) of targeting civilians and so forth. But the nature of the air weapon is such that an Abu Ghraib or Hadithah simply cannot occur. The relative sterility of air power — which the boots-on-the-ground types oddly find distressing as somehow unmartial — nevertheless provides greater opportunity for the discreet application of force largely under the control of well-educated, commissioned officer combatants. Not a total insurance policy against atrocity, but a far more risk-controlled situation. Most important, however, is the purely military effect. The precision revolution has made it possible for air power to put a bomb within feet of any point on earth. Of course, having the right intelligence to select that point remains a challenge — but no more, and likely much less so, than for the land forces. The technology of surveillance is improving at a faster rate than is the ability to conceal. Modern conveniences, for example, from cell phones to credit cards, all leave signatures that can lead to the demise of the increasing numbers of adversaries unable to resist the siren song of techno-connection. Regardless, eventually any insurgency must reveal itself if it is to assume power, and this inevitably provides the opportunity for air power to pick off individuals or entire capabilities that threaten U.S. interests. The real advantage — for the moment anyway — is that air power can do it with impunity and at little risk to Americans. The advances in American air power technology in recent years make U.S. dominance in the air intimidating like no other aspect of combat power for any nation in history. The result? Saddam Hussein’s pilots buried their airplanes rather than fly them against American warplanes. Indeed, the collapse of the Iraqi armed forces was not, as the BOTGZ would have you believe, mainly because of the brilliance of our ground commanders or, in fact, our ground forces at all. The subsequent insurgency makes it clear that Iraqis are quite willing to take on our ground troops. What really mattered was the sheer hopelessness that air power inflicted on Iraq’s military formations. A quotation in Time magazine by a defeated Republican Guard colonel aptly captures the dispiriting effect of high-tech air attack: “[Iraqi leaders] forgot that we are missing air power. That was a big mistake. U.S. military technology is beyond belief.” It is no surprise that the vaunted Republican Guard, the proud fighting organization that tenaciously fought Iran for years, practically jumped out of their uniforms and scattered at the sound of approaching U.S. aircraft. This same ability to inflict hopelessness was even more starkly demonstrated in Afghanistan. For a millennium, the Afghans have been considered among the toughest fighters in the world. Afghan resistance has turned the countryside into a gigantic military cemetery for legions of foreign invaders. For example, despite deploying thousands of troops, well-equipped Soviet forces found themselves defeated after waging a savage war with practically every weapon at their disposal. So what explains the rapid collapse of the Taliban and al-Qaida in 2001? Modern air power. More specifically, the marriage of precision weapons with precise targeting by tiny numbers of Special Forces troops on the ground. The results were stunning. Putatively invulnerable positions the Taliban had occupied for years literally disappeared in a rain of satellite-directed bombs from B-1s and B-52s flying so high they could be neither seen nor heard. This new, high-tech air power capability completely unhinged the resistance without significant commitment of American boots on the ground. Indeed, the very absence of American troops became a source of discouragement. As one Afghan told the New York Times, “We pray to Allah that we have American soldiers to kill,” adding disconsolately, “These bombs from the sky we cannot fight.” Another equally frustrated Taliban fighter was reported in the London Sunday Telegraph recently as fuming that “American forces refuse to fight us face to face,” while gloomily noting that “[U.S.] air power causes us to take heavy casualties.” In other words, the Taliban and al-Qaida were just as tough as the mujahideen who fought the Russians, and more than willing to confront U.S. ground forces, but were broken by the hopelessness that American-style air power inflicted upon them. MORE THAN BOMBS Today it is more than just bombing with impunity that imposes demoralization; it is reconnoitering with impunity. This is more than just the pervasiveness of Air Force-generated satellites. It also includes hundreds of unmanned aerial vehicles that are probing the landscape in Iraq and Afghanistan. They provide the kind of reliable intelligence that permits the careful application of force so advantageous in insurgency and counterterrorism situations. The insurgents are incapable of determining where or when the U.S. employs surveillance assets and, therefore, are forced to assume they are watched everywhere and always. The mere existence of the ever-present eyes in the sky no doubt inflicts its own kind of stress and friction on enemy forces. In short, what real asymmetrical advantage the U.S. enjoys in countering insurgencies in Iraq and Afghanistan relates to a dimension of air power. Strike, reconnaissance, strategic or tactical lift have all performed phenomenally well. It is no exaggeration to observe that almost every improvement in the military situation in Iraq and Afghanistan is attributable to air power in some form; virtually every setback, and especially the strategically catastrophic allegations of war crimes, is traceable to the land forces. While it will be seldom feasible for America to effectively employ any sort of boots-on-the-ground strategy in current or future counterinsurgency situations, the need may arise to destroy an adversary’s capability to inflict harm on U.S. interests. Although there is no perfect solution to such challenges, especially in low-intensity conflicts, the air weapon is the best option. Ricks’ report in “Fiasco,” for example, that Iraq’s weapons of mass destruction program never recovered from 1998’s Operation Desert Fox and its four days of air attacks is interesting. It would appear that Iraq’s scientific minds readily conceded the pointlessness of attempting to build the necessary infrastructure in an environment totally exposed to U.S. air attack. This illustrates another salient feature of air power: its ability to temper the malevolent tendencies of societies accustomed to the rewards of modernity. Given air power’s ability to strike war-supporting infrastructure, the powerful impulse of economic self-interest complicates the ability of despots to pursue malicious agendas. American air power can rapidly educate cultured and sophisticated societies about the costs of war and the futility of pursuing it. This is much the reason why air power alone delivered victory in Operation Allied Force in Kosovo in 1999, without the need to put a single U.S. soldier at risk on the ground. At the same time, America’s **pre-eminence in air power is** also **the** best hope we have to dissuade China **— or any other** future **peer competitor — from aggression**. There is zero possibility that the U.S. can build land forces of the size that would be of real concern to a China. No number of troops or up-armored Humvees, new radios or advanced sniper rifles worries the Chinese. What dominating air power precludes is the ability to concentrate and project forces, necessary elements to applying combat power in hostile areas. As but one illustration, think China and Taiwan. Saddam might have underestimated air power, but don’t count on the Chinese to make the same mistake. China is a powerful, vast country with an exploding, many-faceted economy with strong scientific capabilities. It will take focused and determined efforts for the U.S. to maintain the air dominance that it currently enjoys over China and that, for the moment, deters them. Miscalculating here will be disastrous because, unlike with any counterinsurgency situation (Iraq included), the very existence of the U.S. is at risk.

#### Hegemony solves multiple scenarios for nuclear war

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It is worth first examining the larger picture: We live in a time of arguably **the greatest structural change in the global order yet endured**, with this historical moment's most amazing feature being its relative and absolute lack of mass violence. That is something to consider when Americans contemplate military intervention in Libya, because if we do take the step to prevent larger-scale killing by engaging in some killing of our own, we will not be adding to some fantastically imagined global death count stemming from the ongoing "megalomania" and "evil" of American "empire." We'll be engaging in the same sort of system-administering activity that has marked our stunningly successful stewardship of global order since World War II. Let me be more blunt: As the **guardian of globalization**, the U.S. military has been the greatest force for peace the world has ever known. Had America been removed from the global dynamics that governed the 20th century, the **mass murder never would have ended**. Indeed, it's entirely conceivable there would now be no identifiable human civilization left, once nuclear weapons entered **the killing equation.** But the world did not keep sliding down that **path of perpetual war**. Instead, America stepped up and changed everything by **ushering in our now-**perpetual great-power peace. We introduced the **international liberal trade order known as globalization** and played loyal Leviathan over its spread. What resulted was the collapse of empires, an explosion of **democracy,** the persistent spread of **human rights**, the liberation of women, the doubling of life expectancy, a roughly 10-fold increase in adjusted global GDP and a **profound** and persistent **reduction in** battle deaths from state-based **conflicts**. That is what American "hubris" actually delivered. Please remember that the next time some TV pundit sells you the image of "unbridled" American military power as the cause of global disorder instead of its cure. With self-deprecation bordering on self-loathing, we now imagine a post-American world that is anything but. Just watch who scatters and who steps up as the Facebook revolutions erupt across the Arab world. While we might imagine ourselves the status quo power, we remain the world's most vigorously revisionist force. ¶ As for the sheer "evil" that is our military-industrial complex, again, let's examine what the world looked like before that establishment reared its ugly head. The last great period of global structural change was the first half of the 20th century, a period that saw **a death toll of about 100 million across two world wars**. That comes to an average of 2 million deaths a year in a world of approximately 2 billion souls. Today, with far more comprehensive worldwide reporting, researchers report an average of less than 100,000 battle deaths annually in a world fast approaching 7 billion people. Though admittedly crude, these calculations suggest a 90 percent absolute drop and a 99 percent relative drop in deaths due to war. We are **clearly headed for a world order characterized by multipolarity**, something the American-birthed system was designed to both encourage and accommodate. But given how things turned out the last time we collectively faced such a fluid structure, we would do well to keep U.S. power, in all of its forms, deeply embedded in the geometry to come.

#### Perception of decline causes US lashout – triggers hegemonic wars

Goldstein 7 – Professor of Global Politics and International Relations @ University of Pennsylvania “Power transitions, institutions, and China's rise in East Asia: Theoretical expectations and evidence,” Journal of Strategic Studies, Volume 30, Issue 4 & 5 August 2007, pages 639 – 682

Two closely related, though distinct, theoretical arguments focus explicitly on the consequences for international politics of a shift in power between a dominant state and a rising power. In War and Change in World Politics, Robert Gilpin suggested that peace prevails when a dominant state’s capabilities enable it to ‘govern’ an international order that it has shaped. Over time, however, as economic and technological diffusion proceeds during eras of peace and development, other states are empowered. Moreover, the burdens of international governance drain and distract the reigning hegemon, and challengers eventually emerge who seek to rewrite the rules of governance. As the power advantage of the erstwhile hegemon ebbs, **it may become desperate enough to resort to** the ultima ratio of international politics, **force,** to forestall the increasingly urgent demands of a rising challenger. Or as the power of the challenger rises, it may be tempted to press its case with threats to use force. It is the rise and fall of the great powers that creates the circumstances under which major wars, what Gilpin labels ‘hegemonic wars’, break out.13 Gilpin’s argument logically encourages pessimism about the implications of a rising China. It leads to the expectation that international trade, investment, and technology transfer will result in a steady diffusion of American economic power, benefiting the rapidly developing states of the world, including China. As the US simultaneously scurries to put out the many brushfires that threaten its far-flung global interests (i.e., the classic problem of overextension), it will be unable to devote sufficient resources to maintain or restore its former advantage over emerging competitors like China. While the erosion of the once clear American advantage plays itself out, the US will find it ever more difficult to preserve the order in Asia that it created during its era of preponderance. The expectation is an increase in the likelihood for the use of force – either by a Chinese challenger able to field a stronger military in support of its demands for greater influence over international arrangements in Asia, or by a besieged American hegemon desperate to head off further decline. Among the trends that alarm those who would look at Asia through the lens of Gilpin’s theory are China’s expanding share of world trade and wealth (much of it resulting from the gains made possible by the international economic order a dominant US established); its acquisition of technology in key sectors that have both civilian and military applications (e.g., information, communications, and electronics linked with to forestall, and the challenger becomes increasingly determined to realize the transition to a new international order whose contours it will define. the ‘revolution in military affairs’); and an expanding military burden for the US (as it copes with the challenges of its global war on terrorism and especially its struggle in Iraq) that limits the resources it can devote to preserving its interests in East Asia.14 Although similar to Gilpin’s work insofar as it emphasizes the importance of shifts in the capabilities of a dominant state and a rising challenger, the power-transition theory A. F. K. Organski and Jacek Kugler present in The War Ledger focuses more closely on the allegedly dangerous phenomenon of ‘crossover’– the point at which a dissatisfied challenger is about to overtake the established leading state.15 In such cases, when the power gap narrows, the dominant state becomes increasingly desperate. Though suggesting why a rising China may ultimately present grave dangers for international peace when its capabilities make it a peer competitor of America, Organski and Kugler’s power-transition theory is less clear about the dangers while a potential challenger still lags far behind and faces a difficult struggle to catch up. This clarification is important in thinking about the theory’s relevance to interpreting China’s rise because a broad consensus prevails among analysts that Chinese military capabilities are at a minimum two decades from putting it in a league with the US in Asia.16 Their theory, then, points with alarm to trends in China’s growing wealth and power relative to the United States, but especially looks ahead to what it sees as the period of maximum danger – that time when a dissatisfied China could be in a position to overtake the US on dimensions believed crucial for assessing power. Reports beginning in the mid-1990s that offered extrapolations suggesting China’s growth would give it the world’s largest gross domestic product (GDP aggregate, not per capita) sometime in the first few decades of the twentieth century fed these sorts of concerns about a potentially dangerous challenge to American leadership in Asia.17 The huge gap between Chinese and American military capabilities (especially in terms of technological sophistication) has so far discouraged prediction of comparably disquieting trends on this dimension, but inklings of similar concerns may be reflected in occasionally alarmist reports about purchases of advanced Russian air and naval equipment, as well as concern that Chinese espionage may have undermined the American advantage in nuclear and missile technology, and speculation about the potential military purposes of China’s manned space program.18 Moreover, because a dominant state may react to the prospect of a crossover and believe that it is wiser to embrace the logic of **preventive war** and act early to delay a transition while the task is more manageable, Organski and Kugler’s power-transition theory also provides grounds for concern about the period prior to the possible crossover.19 pg. 647-650

#### **US-China war causes extinction**

Strait Times 2k (Ching Cheong, Senior Journalist with The Strait Times, “No one gains in a war over Taiwan,” June 25th, Lexis)

**THE high-intensity scenario postulates a cross-strait war escalating into a full-scale war between the US and China.** If Washington were to conclude that splitting China would better serve its national interests, then **a full-scale war becomes unavoidable. Conflict on such a scale would embroil other countries far and near and -horror of horrors -raise the possibility of a nuclear war**. Beijing has already told the US and Japan privately that it considers any country providing bases and logistics support to any US forces attacking China as belligerent parties open to its retaliation. In the region, this means South Korea, Japan, the Philippines and, to a lesser extent, Singapore**. If China were to retaliate, east Asia will be set on fire**. And the conflagration may not end there as **opportunistic powers elsewhere may try to overturn the existing world order**. With the US distracted, Russia may seek to redefine Europe's political landscape. The balance of power in the Middle East may be similarly upset by the likes of Iraq. In south Asia, hostilities between India and Pakistan, each armed with its own nuclear arsenal, could enter a new and dangerous phase. Will a full-scale Sino-US war lead to a nuclear war? According to General Matthew Ridgeway, commander of the US Eighth Army which fought against the Chinese in the Korean War, the US had at the time thought of using nuclear weapons against China to save the US from military defeat. In his book The Korean War, a personal account of the military and political aspects of the conflict and its implications on future US foreign policy, Gen Ridgeway said that US was confronted with two choices in Korea -truce or a broadened war, which could have led to the use of nuclear weapons. If the US had to resort to nuclear weaponry to defeat China long before the latter acquired a similar capability**, there is little hope of winning a war against China**, 50 years later**, short of using nuclear weapons**. The US estimates that China possesses about 20 nuclear warheads that can destroy major American cities**. Beijing also seems prepared to** go for the nuclear option. A Chinese military officer disclosed recently that Beijing was considering a review of its "non first use" principle regarding nuclear weapons. Major-General Pan Zhangqiang, president of the military-funded Institute for Strategic Studies, told a gathering at the Woodrow Wilson International Centre for Scholars in Washington that although the government still abided by that principle, there were strong pressures from the military to drop it. He said military leaders considered the use of nuclear weapons mandatory if the country risked dismemberment as a result of foreign intervention. Gen Ridgeway said that should that come to pass, **we would see the** destruction of civilization**.**

#### **Air power is key to US-Asia alliances and an effective Asia pivot**

Lowther 11 – Dr. Adam B. Lowther is a member of the faculty at the U.S Air Force's Air University. November 22nd, 2011, "Why U.S. Needs Airpower Diplomacy," thediplomat.com/2011/11/22/why-u-s-needs-airpower-diplomacy/?all=true

What makes affording a shift to the region particularly difficult is the fact that the Asia-Pacific’s distances make operating in the region much more expensive than operating in the West. By contrast, Europe is a rather compact continent where the distance between Washington, DC, and Berlin is closer to half that of Los Angeles to Beijing. To make matters more challenging, **existing U.S. bases in Japan and Korea, for example, are among the United States’ most expensive—even with significant financial support from the host nation. And to make matters even more difficult, in some cases, local populations no longer support a permanent American presence**.¶ These challenges impose a difficult set of requirements on a new U.S. strategy for the Asia-Pacific. Such a strategy should demonstrate that it relies on U.S. assets best able to overcome the challenges of distance; it must prove cost effective; and it is sensitive to the domestic and strategic position of partner nations. One approach is particularly well suited to overcoming these challenges. ¶ Airpower diplomacy, also known as building partnerships by the U.S. Air Force, offers some distinct advantages over any alternatives. Best thought of as the non-kinetic application of air, space, and cyber power, airpower diplomacy is a form of soft power that’s useful in strengthening existing relationships and developing new ones—while protecting American interests. The U.S. Air Force **has successfully employed airpower diplomacy in one iteration or another for more than six decades**. Its strengths are in three distinct areas. ¶ First, airpower, broadly speaking, is able to overcome the distances that make the Asia-Pacific such a challenging region. As the single largest feature on the earth’s surface, the Pacific Ocean makes it difficult for the United States to respond quickly with men and material to unexpected events in the region. With airpower, there’s no place on earth that the United States can’t reach in less than 24 hours.¶ However, aircraft must land, which is why building partnerships—of mutual interests—with countries in the region is a critical component of airpower diplomacy. For many nations in the Asia-Pacific, walking a careful line between China and the United States is the unenviable position in which they find themselves. As the most advanced air, space, and cyber force in the world, the U.S. Air Force is a desirable partner for many countries. This provides a natural advantage for the United States. However, ensuring that the U.S. doesn’t overplay its hand is important if airpower diplomacy is to succeed. ¶ Second, airpower diplomacy is a cost-effective alternative to the use of force. Since it’s a concept that focuses on the application of soft power, airpower diplomacy is far more than just American aircraft sitting on the ramps of foreign airfields. **It** builds partnerships through economic ties**, training and** support of local forces**,** humanitarian relief**,** joint operations**, and much more.** For example, Fifth Air Force, based at Yokota Air Force Base in Japan, has provided assistance to victims of floods, typhoons, volcanoes, and earthquakes on numerous occasions in recent years. The Indian Ocean earthquake and tsunami (2004), Burma cyclone (2008), Indonesian earthquake (2009), and the Tohoku earthquake and tsunami (2011) are some examples of where airpower diplomacy played a leading role in the United States’ response to natural disasters. In the case of the Indian Ocean and Tohoku earthquakes and tsunamis, a strong American response led to improved relations between the United States and Indonesia in the first case and the United States and Japan in the second. This was airpower diplomacy at work.¶ An often overlooked example of airpower diplomacy is the U.S. Air Force’s Inter-American Air Forces Academy (IAAFA) at Lackland Air Force Base in San Antonio, Texas. There, students from across Latin America attend courses ranging from aircraft maintenance to professional leadership. The school’s broader objective is to **build a community of airmen with the skills to lead capable air forces in their home countries—making cooperation with the United States more likely.**¶ In these and many other instances, **airpower diplomacy acts as a cost-effective way for the United States to build partnerships with nations that share common interests**. And, **by strengthening relationships, the** U**nited** S**tates is less likely to find itself in a costly conflict with what could have been a partner**. ¶ Third, airpower and airpower diplomacy don’t require permanent large footprint bases that are both expensive for the United States and a political irritant for many governments in the region. **With the U.S.** pivoting toward the Asia-Pacific, a growth in the number of American main-operating bases in the region would be expected. Airpower diplomacy, however, focuses on the use of joint operations, short-term deployments, and other temporary measures, enabling the United States to maintain a regional presence—demonstrating commitment—while eliminating concerns of an American occupation.¶ Flexible operations and arrangements also have the added benefit of proving to be less of a stressor in the host nation’s relationship with China, which is becoming increasingly important for every nation in the region. The United States’ attempt to conduct what Secretary of State Clinton calls “forward deployed diplomacy,” a strategy in which American airmen operate with their host nation counterparts at bases owned and operated by the host nation, may prove a far superior option to one resembling Cold War NATO where up to several hundred thousand Americans were stationed in Western Europe. ¶ With its focus on a wide range of soft power tools, airpower diplomacy is well suited to serve a central role in American foreign policy in the Asia-Pacific. Simply put, **no other U.S. military capability provides the speed and flexibility of airpower.¶** As defense and foreign policy officials in the Obama administration refine the president’s regional strategy, they may want to give airpower diplomacy and its mix of diplomatic tools significant consideration. After all, no other approach is as cost effective, culturally sensitive, and responsive to the requirements of a complex and changing region.

#### Effective Asia pivot is key to solve multiple scenario for nuclear war

Colby 11 – Elbridge Colby, research analyst at the Center for Naval Analyses, served as policy advisor to the Secretary of Defense’s Representative to the New START talks, expert advisor to the Congressional Strategic Posture Commission, August 10, 2011, “Why the U.S. Needs its Liberal Empire,” The Diplomat, online: http://the-diplomat.com/2011/08/10/why-us-needs-its-liberal-empire/2/?print=yes

But the pendulum shouldn’t be allowed to swing too far toward an incautious retrenchment. For our problem hasn’t been overseas commitments and interventions as such, but the kinds of interventions. The US alliance and partnership structure, what the late William Odom called the United States’ ‘liberal empire’ that includes a substantial military presence and a willingness to use it in the defence of US and allied interests, remains a vital component of US security and global stability and prosperity. This system of voluntary and consensual cooperation under US leadership, particularly in the security realm, constitutes a formidable bloc defending the liberal international order.¶ But, in part due to poor decision-making in Washington, this system is under strain, particularly in East Asia, where the security situation has become tenser even as the region continues to become the centre of the global economy.¶ A nuclear North Korea’s violent behaviour threatens South Korea and Japan, as well as US forces on the peninsula; Pyongyang’s development of a road mobile Intercontinental Ballistic Missile, moreover, brings into sight the day when North Korea could threaten the United States itself with nuclear attack, a prospect that will further imperil stability in the region.¶ More broadly, the rise of China – and especially its rapid and opaque military build-up – combined with its increasing assertiveness in regional disputes is troubling to the United States and its allies and partners across the region. Particularly relevant to the US military presence in the western Pacific is the development of Beijing’s anti-access and area denial capabilities, including the DF-21D anti-ship ballistic missile, more capable anti-ship cruise missiles, attack submarines, attack aircraft, smart mines, torpedoes, and other assets.¶ While Beijing remains a constructive contributor on a range of matters, these capabilities will give China the growing power to deny the United States the ability to operate effectively in the western Pacific, and thus the potential to undermine the US-guaranteed security substructure that has defined littoral East Asia since World War II. Even if China says today it won’t exploit this growing capability, who can tell what tomorrow or the next day will bring?¶ Naturally, US efforts to build up forces in the western Pacific in response to future Chinese force improvements must be coupled with efforts to engage Beijing as a responsible stakeholder; indeed, a strengthened but appropriately restrained military posture will enable rather than detract from such engagement. ¶ In short, the United States must increase its involvement in East Asia rather than decrease it. Simply maintaining the military balance in the western Pacific will, however, involve substantial investments to improve US capabilities. It will also require augmented contributions to the common defence by US allies that have long enjoyed low defence budgets under the US security umbrella. This won’t be cheap, for these requirements can’t be met simply by incremental additions to the existing posture, but will have to include advances in air, naval, space, cyber, and other expensive high-tech capabilities.¶ Yet such efforts are vital, for East Asia represents the economic future, and its strategic developments will determine which country or countries set the international rules that shape that economic future. Conversely, US interventions in the Middle East and, to a lesser degree, in south-eastern Europe have been driven by far more ambitious and aspirational conceptions of the national interest, encompassing the proposition that failing or illiberally governed peripheral states can contribute to an instability that nurtures terrorism and impedes economic growth. Regardless of whether this proposition is true, the effort is rightly seen by the new political tide not to be worth the benefits gained. Moreover, the United States can scale (and has scaled) back nation-building plans in Iraq, Afghanistan, and the Balkans without undermining its vital interests in ensuring the free flow of oil and in preventing terrorism.¶ The lesson to be drawn from recent years is not, then, that the United States should scale back or shun overseas commitments as such, but rather that we must be more discriminating in making and acting upon them. A total US unwillingness to intervene would pull the rug out from under the US-led structure, leaving the international system prey to disorder at the least, and at worst to chaos or dominance by others who could not be counted on to look out for US interests.¶ We need to focus on making the right interventions, not forswearing them completely. In practice, this means a more substantial focus on East Asia and the serious security challenges there, and less emphasis on the Middle East. ¶ This isn’t to say that the United States should be unwilling to intervene in the Middle East. Rather, it is to say that our interventions there should be more tightly connected to concrete objectives such as protecting the free flow of oil from the region, preventing terrorist attacks against the United States and its allies, and forestalling or, if necessary, containing nuclear proliferation as opposed to the more idealistic aspirations to transform the region’s societies. ¶ These more concrete objectives can be better met by the more judicious and economical use of our military power. More broadly, however, it means a shift in US emphasis away from the greater Middle East toward the Asia-Pacific region, which dwarfs the former in economic and military potential and in the dynamism of its societies. The Asia-Pacific region, with its hard-charging economies and growing presence on the global stage, is where the future of the international security and economic system will be set, and it is there that Washington needs to focus its attention, especially in light of rising regional security challenges. ¶ In light of US budgetary pressures, including the hundreds of billions in ‘security’ related money to be cut as part of the debt ceiling deal, it’s doubly important that US security dollars be allocated to the most pressing tasks – shoring up the US position in the most important region of the world, the Asia-Pacific. It will also require restraint in expenditure on those challenges and regions that don’t touch so directly on the future of US security and prosperity. ¶ As Americans debate the proper US global role in the wake of the 2008 financial crisis and Iraq and Afghanistan, they would do well to direct their ire not at overseas commitments and intervention as such, but rather at those not tied to core US interests and the sustainment and adaptation of the ‘liberal empire’ that we have constructed and maintained since World War II.¶ Defenders of our important overseas links and activities should clearly distinguish their cause from the hyperactive and barely restrained approach represented by those who, unsatisfied with seeing the United States tied down in three Middle Eastern countries, seek intervention in yet more, such as Syria. Indeed, those who refuse to scale back US interventions in the Middle East or call for still more are directly contributing to the weakening of US commitments in East Asia, given strategic developments in the region and a sharply constrained budgetary environment in Washington.¶ We can no longer afford, either strategically or financially, to squander our power in unnecessary and ill-advised interventions and nation-building efforts. The ability and will to intervene is too important to be so wasted.

#### US-Asia alliances prevent proliferation

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The above observation leads to a third explanation for US bilateral alliance persistence in the region. It may well be that the SFS’s existing architecture constitutes the only asset or mechanism available for the US to use at a time when it desires to support its global postures with a sustained Asia–Pacific presence and role. The 2001 QDR acknowledged this, even prior to the war on terror, by observing that the contemporary geopolitical setting is ‘complex and unpredictable’ and that allied cooperation in the Asia–Pacific is indispensable to **implementing a broader American strategy directed toward cultivating and** maintaining international stability. 57 It is notable that every US bilateral ally in Asia eventually deployed forces to ‘Operation Enduring Freedom’ in Afghanistan and, to various degrees, also contributed troops to the Iraq War. **Among the United States’ 16 designated ‘major non-NATO allies’, Asia–Pacific states constitute nearly half of that category: Australia, Japan, New Zealand, the Philippines, Pakistan, South Korea and Thailand.** Gaining this status allows a state to engage with the US ‘in joint research and development on military systems and to cooperate on matters like **counterterrorism with close security partners’**. 58¶ WMD non-proliferation is another US global security objective in which its Asia–Pacific treaty allies are prominently involved. The US is currently working with Japan and South Korea, for example, in responding to an emerging threat (North Korean nuclear capabilities) by engaging with them and with China, Russia and North Korea in the Six Party Talks. Specific points of disagreement still exist between the US and its South Korean ally on what constitutes the right combination of pressure and inducement that needs to be applied to North Korea. But South Korea has largely closed ranks with the US over North Korea’s reported counterfeiting activities to finance its alleged nuclear weapons program and was scheduled to send observers to the PSI maritime interdiction exercise in April 2006 that involved US, Japanese and Australian units practicing interception of WMD contraband on the high seas—an activity North Korea perceives as directly aimed against itself. 59

#### Asian proliferation causes nuclear war – asymmetries make use highly likely

Lyon 9 (December, Program Director, Strategy and International, with Australian Strategic Policy Institute, previously a Senior Lecturer in International Relations at the University of Queensland, “A delicate issue, Asia’s nuclear future”)

Deterrence relationships in Asia won’t look like East–West deterrence. They won’t be relationships of mutual assured destruction (MAD), and there will be many asymmetries among them. Regional nuclear-weapon states will articulate a spectrum of strategies ranging from existential deterrence to minimum deterrence to assured retaliation; and sometimes doctrinal statements will outrun capabilities. The smaller arsenals of Asia and the absence of severe confrontations will help to keep doctrines at the level of generalised deterrence. Extended nuclear deterrence will continue to be important to US allies in East Asia, although it is hard to imagine other Asian nuclear weapon states ‘extending’ deterrence to their clients or allies. Alagappa’s propositions contain a ‘picture’ of what a more proliferated Asia might look like. It could well remain a region where deterrence dominates, and where arsenals are typically constrained: an Asia, in fact, that falls some way short of a ‘nuclear chaos’ model of unrestrained proliferation and mushrooming nuclear dangers. An order in flux? Notwithstanding Alagappa’s more reassuring view, we shouldn’t understate the extent of the looming change from a nuclear relationship based on bipolar symmetry to a set of relationships based on multiplayer asymmetries. As one observer has noted, when you add to that change the relatively constrained size of nuclear arsenals in Asia, the likelihood of further nuclear reductions by the US and Russia, and ballistic missile defences of uncertain effectiveness, the world is about to enter uncharted territory (Ford 2009:125). Some factors certainly act as stabilising influences on the current nuclear order, not least that nuclear weapons (here as elsewhere) typically induce caution, that the regional great powers tend to get along reasonably well with each other and that the region enters its era of nuclear pre-eminence inheriting a strong set of robust norms and regimes from the earlier nuclear era. But other factors imply a period of looming change: geopolitical dynamism is rearranging strategic relationships; the number of risk-tolerant adversaries seems to be increasing; most nuclear weapons states are modernising their arsenals; the American arsenal is ageing; and the US’s position of primacy is increasingly contested in Asia. Indeed, it may be that dynamism which could most seriously undermine the Solingen model of East Asian nonproliferation. Solingen, after all, has not attempted to produce a general theory about proliferation; she has attempted to explain only proliferation in the post-NPT age (see Solingen 2007:3), when the P-5 of the UN Security Council already had nuclear weapons. In essence, though, it’s exactly that broader geopolitical order that might be shifting. It isn’t yet clear how the Asian nuclear order will evolve. It’s one of those uncertainties that define Australia’s shifting strategic environment. It’s not too hard to imagine an order that’s more competitive than the one we see now. The ‘managed system of deterrence’ The second approach to thinking about the Asian nuclear order is to attempt to superimpose upon it William Walker’s two key mechanisms of the first nuclear age: the ‘managed system of deterrence’ and the ‘managed system of abstinence’. What might those ‘systems’ look like in Asia? In Walker’s model, the managed system of deterrence included: the deployment of military hardware under increasingly sophisticated command and control; the development of strategic doctrines to ensure mutual vulnerability and restraint; and the establishment of arms control processes through which policy elites engaged in dialogue and negotiated binding agreements. (Walker 2007:436) It isn’t obvious that those core aspects of the ‘managed’ system are all central features of Asian nuclear relationships. Perhaps most importantly, it isn’t obvious that the world even has a good model for how deterrence works in asymmetric relationships. Within the US, there’s been something of a revival of interest in matters nuclear as strategic analysts attempt to reconceptualise how nuclear relationships might work in the future. Recent work on the problems of exercising deterrence across asymmetrical strategic contests, for example, suggests a number of problems: ‘In asymmetric conflict situations, deterrence may not only be unable to prevent violence but may also help foment it’ (Adler 2009:103). Some of the problems arise precisely because weaker players seem increasingly likely to ‘test’ stronger players’ threats—as part of a pattern of conflict that has emerged over recent centuries, in which weaker players have often prevailed against stronger opponents.3 If we were to look at the case study of the India–Pakistan nuclear relationship—which is grounded in an enduring strategic rivalry, and therefore not ‘typical’ of the broader nuclear relationships in Asia—it’s a moot point whether Pakistani behaviour has been much altered by the ‘deterrence’ policies of India. Indeed, the case seems to show that Pakistan doesn’t even accept a long-term condition of strategic asymmetry with India, and that it intends to use its nuclear weapons as an ‘equaliser’ against India’s larger conventional forces by building a nuclear arsenal larger than the Indian arsenal arrayed against it. That would imply, more broadly, that increasing strategic rivalries across Asia could be accompanied by efforts to minimise asymmetrical disadvantages between a much wider range of players. In short, in a more competitive Asian strategic environment, nuclear asymmetries that are tolerable now might well become less tolerable. Furthermore, we need to think about how we might ‘codify’ deterrence in Asia. In the Cold War days, the MAD doctrine tended to be reflected in arms control accords that limited wasteful spending and corralled the competition. As Walker acknowledges, the agreements were important ‘stabilisers’ of the broader nuclear relationship, but to what extent can they be replicated in conditions of asymmetry? It might be possible to codify crisis management procedures, but designing (and verifying) limitations on weapons numbers would seem to be much more difficult when the arsenals are of uneven size, and when the weaker party (perhaps both parties) would probably be relying on secrecy about the numbers and locations of weapons to minimise the vulnerability of their arsenals.

#### The Asia pivot protects the straits of Malacca – it’s key to Asian trade

Kaplan 11 – Robert D. Kaplan 11 is senior fellow at the Center for a New American Security, national correspondent for the Atlantic, and a member of the U.S. Defense Department's Defense Policy Board, September/October 2011, “The South China Sea Is the Future of Conflict,” online: http://www.foreignpolicy.com/articles/2011/08/15/the\_south\_china\_sea\_is\_the\_future\_of\_conflict?print=yes&hidecomments=yes&page=full

The South China Sea joins the Southeast Asian states with the Western Pacific, functioning as the throat of global sea routes. Here is the center of maritime Eurasia, punctuated by the straits of Malacca, Sunda, Lombok, and Makassar. More than halfthe world's annual merchant fleet tonnage passes through these choke points, and a third of all maritime traffic. The oil transported through the Strait of Malacca from the Indian Ocean, en route to East Asia through the South China Sea, is more than six timesthe amount that passes through the Suez Canal and 17 times the amount that transits the Panama Canal. Roughly two-thirds of South Korea's energy supplies, nearly 60 percent of Japan's and Taiwan's energy supplies, and about 80 percent of China's crude-oil imports come through the South China Sea. What's more, the South China Sea has proven oil reserves of 7 billion barrels and an estimated 900 trillion cubic feet of natural gas, a potentially huge bounty.¶ It is not only location and energy reserves that promise to give the South China Sea critical geostrategic importance, but also the coldblooded territorial disputes that have long surrounded these waters. Several disputes concern the Spratly Islands, a mini-archipelago in the South China Sea's southeastern part. Vietnam, Taiwan, and China each claim all or most of the South China Sea, as well as all of the Spratly and Paracel island groups. In particular, Beijing asserts a historical line: It lays claim to the heart of the South China Sea in a grand loop (widely known as the "cow's tongue") from China's Hainan Island at the South China Sea's northern end all the way south 1,200 miles to near Singapore and Malaysia.¶ The result is that all nine states that touch the South China Sea are more or less arrayed against China and therefore dependent on the United States for diplomatic and military support. These conflicting claims are likely to become even more acute as Asia's spiraling energy demands -- energy consumption is expected to double by 2030, with China accounting for half that growth -- make the South China Sea the ever more central guarantor of the region's economic strength. Already, the South China Sea has increasingly become an armed camp, as the claimants build up and modernize their navies, even as the scramble for islands and reefs in recent decades is mostly over. China has so far confiscated 12 geographical features, Taiwan one, Vietnam 25, the Philippines eight, and Malaysia five.

#### Collapse of Asian trade causes US draw-in and global nuclear war

Auslin 9 – Michael Auslin 9, resident scholar at AEI, “Averting Disaster”, The Daily Standard, 2/6, http://www.aei.org/publications/filter.all,pubID.29339/pub\_detail.asp

As they deal with a collapsing world economy, policymakers in Washington and around the globe must not forget that **when a depression strikes, war can follow**. Nowhere is this truer than in Asia, the most heavily armed region on earth and **riven with** ancient hatreds and territorial **rivalries.** Collapsing trade flows can lead to political tension, nationalist outbursts, growing distrust, and ultimately, military miscalculation. The result would be disaster on top of an already dire situation. Asia's political infrastructure may not be strong enough to resist the slide towards confrontation and conflict. No one should think that Asia is on the verge of conflict. But it is also important to remember what has helped keep the peace in this region for so long. Phenomenal growth rates in Japan, South Korea, Hong Kong, Singapore, China and elsewhere since the 1960s have naturally turned national attention inward, to development and stability. This has gradually led to increased political confidence, diplomatic initiatives, and in many nations the move toward more democratic systems. America has directly benefited as well, and not merely from years of lower consumer prices, but also from the general conditions of peace in Asia. Yet policymakers need to remember that even during these decades of growth, moments of economic shock, such as the 1973 Oil Crisis, led to instability and bursts of terrorist activity in Japan, while the uneven pace of growth in China has led to tens of thousands of armed clashes in the poor interior of the country. Now **imagine such instability multiplied region-wide**. The economic collapse Japan is facing, and China's potential slowdown, **dwarfs any previous economic troubles,** including the 1998 Asian Currency Crisis. Newly urbanized workers rioting for jobs or living wages, conflict over natural resources, further saber-rattling from North Korea, all can take on lives of their own. This is the nightmare of governments in the region, and particularly of democracies from newer ones like Thailand and Mongolia to established states like Japan and South Korea. How will overburdened political leaders react to internal unrest? What happens if Chinese shopkeepers in Indonesia are attacked, or a Japanese naval ship collides with a Korean fishing vessel? Quite simply, Asia's political infrastructure may not be strong enough to resist the slide towards confrontation and conflict. This would be a political and humanitarian disaster turning the clock back decades in Asia. It would almost certainly drag America in at some point, as well. First of all, we have **alliance responsibilities** to Japan, South Korea, Australia, and the Philippines should any of them come under armed attack. Failure on our part to live up to those responsibilities could mean the end of America's credibility in Asia. Secondly, peace in Asia has been kept in good measure by the continued U.S. military presence since World War II. There have been terrible localized conflicts, of course, but nothing approaching a systemic conflagration like the 1940s. Today, such a conflict would be far more bloody, and it is unclear if the American military, already stretched too thin by wars in Afghanistan and Iraq, could contain the crisis. Nor is it clear that the American people, worn out from war and economic distress, would be willing to shed even more blood and treasure for lands across the ocean. The result could be a historic changing of the geopolitical map in the world's most populous region. Perhaps China would emerge as the undisputed hegemon. Possibly democracies like Japan and South Korea would link up to oppose any aggressor. India might decide it could move into the vacuum. All of this is guess-work, of course, but it has happened repeatedly throughout history. There is no reason to believe we are immune from the same types of miscalculation and greed that have destroyed international systems in the past.

## Contention Two is Warming

#### It’s happening and is anthropogenic---reject negative evidence

**Prothero 12** [Donald R. Prothero, Professor of Geology at Occidental College and Lecturer in Geobiology at the California Institute of Technology, 3-1-2012, "How We Know Global Warming is Real and Human Caused," Skeptic, 17.2, EBSCO]

How do we know that global warming is real and primarily human caused? There are numerous lines of evidence that converge toward this conclusion. 1. Carbon Dioxide Increase Carbon dioxide in our atmosphere has increased at an unprecedented rate in the past 200 years. Not one data set collected over a long enough span of time shows otherwise. Mann et al. (1999) compiled the past 900 years' worth of temperature data from tree rings, ice cores, corals, and direct measurements in the past few centuries, and the sudden increase of temperature of the past century stands out like a sore thumb. This famous graph is now known as the "hockey stick" because it is long and straight through most of its length, then bends sharply upward at the end like the blade of a hockey stick. Other graphs show that climate was very stable within a narrow range of variation through the past 1000, 2000, or even 10,000 years since the end of the last Ice Age. There were minor warming events during the Climatic Optimum about 7000 years ago, the Medieval Warm Period, and the slight cooling of the Litde Ice Age in the 1700s and 1800s. But the magnitude and rapidity of the warming represented by the last 200 years is simply unmatched in all of human history. More revealing, the timing of this warming coincides with the Industrial Revolution, when humans first began massive deforestation and released carbon dioxide into the atmosphere by burning an unprecedented amount of coal, gas, and oil. 2. Melting Polar Ice Caps The polar icecaps are thinning and breaking up at an alarming rate. In 2000, my former graduate advisor Malcolm McKenna was one of the first humans to fly over the North Pole in summer time and see no ice, just open water. The Arctic ice cap has been frozen solid for at least the past 3 million years (and maybe longer),[ 4] but now the entire ice sheet is breaking up so fast that by 2030 (and possibly sooner) less than half of the Arctic will be ice covered in the summer.[ 5] As one can see from watching the news, this is an ecological disaster for everything that lives up there, from the polar bears to the seals and walruses to the animals they feed upon, to the 4 million people whose world is melting beneath their feet. The Antarctic is thawing even faster. In February-March 2002, the Larsen B ice shelf -- over 3000 square km (the size of Rhode Island) and 220 m (700 feet) thick -- broke up in just a few months, a story -typical of nearly all the ice shelves in Antarctica. The Larsen B shelf had survived all the previous ice ages and interglacial warming episodes over the past 3 million years, and even the warmest periods of the last 10,000 years -- yet it and nearly all the other thick ice sheets on the Arctic, Greenland, and Antarctic are vanishing at a rate never before seen in geologic history. 3. Melting Glaciers Glaciers are all retreating at the highest rates ever documented. Many of those glaciers, along with snow melt, especially in the Himalayas, Andes, Alps, and Sierras, provide most of the freshwater that the populations below the mountains depend upon -- yet this fresh water supply is vanishing. Just think about the percentage of world's population in southern Asia (especially India) that depend on Himalayan snowmelt for their fresh water. The implications are staggering. The permafrost that once remained solidly frozen even in the summer has now thawed, damaging the Inuit villages on the Arctic coast and threatening all our pipelines to the North Slope of Alaska. This is catastrophic not only for life on the permafrost, but as it thaws, the permafrost releases huge amounts of greenhouse gases which are one of the major contributors to global warming. Not only is the ice vanishing, but we have seen record heat waves over and over again, killing thousands of people, as each year joins the list of the hottest years on record. (2010 just topped that list as the hottest year, surpassing the previous record in 2009, and we shall know about 2011 soon enough). Natural animal and plant populations are being devastated all over the globe as their environments change.[ 6] Many animals respond by moving their ranges to formerly cold climates, so now places that once did not have to worry about disease-bearing mosquitoes are infested as the climate warms and allows them to breed further north. 4. Sea Level Rise All that melted ice eventually ends up in the ocean, causing sea levels to rise, as it has many times in the geologic past. At present, the sea level is rising about 3-4 mm per year, more than ten times the rate of 0.1-0.2 mm/year that has occurred over the past 3000 years. Geological data show that the sea level was virtually unchanged over the past 10,000 years since the present interglacial began. A few mm here or there doesn't impress people, until you consider that the rate is accelerating and that most scientists predict sea levels will rise 80-130 cm in just the next century. A sea level rise of 1.3 m (almost 4 feet) would drown many of the world's low-elevation cities, such as Venice and New Orleans, and low-lying countries such as the Netherlands or Bangladesh. A number of tiny island nations such as Vanuatu and the Maldives, which barely poke out above the ocean now, are already vanishing beneath the waves. Eventually their entire population will have to move someplace else.[ 7] Even a small sea level rise might not drown all these areas, but they are much more vulnerable to the large waves of a storm surge (as happened with Hurricane Katrina), which could do much more damage than sea level rise alone. If sea level rose by 6 m (20 feet), most of the world's coastal plains and low-lying areas (such as the Louisiana bayous, Florida, and most of the world's river deltas) would be drowned. Most of the world's population lives in low-elevation coastal cities such as New York, Boston, Philadelphia, Baltimore, Washington, D.C., Miami, and Shanghai. All of those cities would be partially or completely under water with such a sea level rise. If all the glacial ice caps melted completely (as they have several times before during past greenhouse episodes in the geologic past), sea level would rise by 65 m (215 feet)! The entire Mississippi Valley would flood, so you could dock an ocean liner in Cairo, Illinois. Such a sea level rise would drown nearly every coastal region under hundreds of feet of water, and inundate New York City, London and Paris. All that would remain would be the tall landmarks such as the Empire State Building, Big Ben, and the Eiffel Tower. You could tie your boats to these pinnacles, but the rest of these drowned cities would lie deep underwater. Climate Change Critic's Arguments and Scientists' Rebuttals Despite the overwhelming evidence there are many people who remain skeptical. One reason is that they have been fed distortions and misstatements by the global warming denialists who cloud or confuse the issue. Let's examine some of these claims in detail: \* "It's just natural climatic variability." No, it is not. As I detailed in my 2009 book, Greenhouse of the Dinosaurs, geologists and paleoclimatologists know a lot about past greenhouse worlds, and the icehouse planet that has existed for the past 33 million years. We have a good understanding of how and why the Antarctic ice sheet first appeared at that time, and how the Arctic froze over about 3.5 million years ago, beginning the 24 glacial and interglacial episodes of the "Ice Ages" that have occurred since then. We know how variations in the earth's orbit (the Milankovitch cycles) controls the amount of solar radiation the earth receives, triggering the shifts between glacial and interglacial periods. Our current warm interglacial has already lasted 10,000 years, the duration of most previous interglacials, so if it were not for global warming, we would be headed into the next glacial in the next 1000 years or so. Instead, our pumping greenhouse gases into our atmosphere after they were long trapped in the earth's crust has pushed the planet into a "super-interglacial," already warmer than any previous warming period. We can see the "big picture" of climate variability most clearly in ice cores from the EPICA (European Project for Ice Coring in Antarctica), which show the details of the last 650,000 years of glacial-inters glacial cycles (Fig. 2). At no time during any previous interglacial did the carbon dioxide levels exceed 300 ppm, even at their very warmest. Our atmospheric carbon dioxide levels are already close to 400 ppm today. The atmosphere is headed to 600 ppm within a few decades, even if we stopped releasing greenhouse gases immediately. This is decidedly not within the normal range of "climatic variability," but clearly unprecedented in human history. Anyone who says this is "normal variability" has never seen the huge amount of paleoclimatic data that show otherwise. \* "It's just another warming episode, like the Medieval Warm Period, or the Holocene Climatic Optimum or the end of the Little Ice Age." Untrue. There were numerous small fluctuations of warming and cooling over the last 10,000 years of the Holocene. But in the case of the Medieval Warm Period (about 950-1250 A.D.), the temperatures increased only 1°C, much less than we have seen in the current episode of global warming (Fig. 1). This episode was also only a local warming in the North Atlantic and northern Europe. Global temperatures over this interval did not warm at all, and actually cooled by more than 1°C. Likewise, the warmest period of the last 10,000 years was the Holocene Climatic Optimum ( 5,000-9,000 B.C.E.) when warmer and wetter conditions in Eurasia contributed to the rise of the first great civilizations in Egypt, Mesopotamia, the Indus Valley, and China. This was largely a Northern Hemisphere-Eurasian phenomenon, with 2-3°C warming in the Arctic and northern Europe. But there was almost no warming in the tropics, and cooling or no change in the Southern Hemisphere.[ 8] From a Eurocentric viewpoint, these warming events seemed important, but on a global scale the effect was negligible. In addition, neither of these warming episodes is related to increasing greenhouse gases. The Holocene Climatic Optimum, in fact, is predicted by the Milankovitch cycles, since at that time the axial tilt of the earth was 24°, its steepest value, meaning the Northern Hemisphere got more solar radiation than normal -- but the Southern Hemisphere less, so the two balanced. By contrast, not only is the warming observed in the last 200 years much greater than during these previous episodes, but it is also global and bipolar, so it is not a purely local effect. The warming that ended the Little Ice Age (from the mid-1700s to the late 1800s) was due to increased solar radiation prior to 1940. Since 1940, however, the amount of solar radiation has been dropping, so the only candidate remaining for the post-1940 warming is carbon dioxide.[ 9] "It's just the sun, or cosmic rays, or volcanic activity or methane." Nope, sorry. The amount of heat that the sun provides has been decreasing since 1940,[ 10] just the opposite of the critics' claims (Fig. 3). There is no evidence of an increase in cosmic ray particles during the past century.[ 11] Nor is there any clear evidence that large-scale volcanic events (such as the 1815 eruption of Tambora in Indonesia, which changed global climate for about a year) have any long-term effects that would explain 200 years of warming and carbon dioxide increase. Volcanoes erupt only 0.3 billion tonnes of carbon dioxide each year, but humans emit over 29 billion tonnes a year,[ 12] roughly 100 times as much. Clearly, we have a bigger effect. Methane is a more powerful greenhouse gas, but there is 200 times more carbon dioxide than methane, so carbon dioxide is still the most important agent.[ 13] Every other alternative has been looked at and can be ruled out. The only clear-cut relationship is between human-caused carbon dioxide increase and global warming. \* "The climate records since 1995 (or 1998) show cooling." That's simply untrue. The only way to support this argument is to cherry-pick the data.[ 14] Over the short term, there was a slight cooling trend from 1998-2000, but only because 1998 was a record-breaking El Nino year, so the next few years look cooler by comparison (Fig. 4). But since 2002, the overall long-term trend of warming is unequivocal. All of the 16 hottest years ever recorded on a global scale have occurred in the last 20 years. They are (in order of hottest first): 2010, 2009, 1998, 2005, 2003, 2002, 2004, 2006, 2007, 2001, 1997, 2008, 1995, 1999, 1990, and 2000.[ 15] In other words, every year since 2000 has been on the Top Ten hottest years list. The rest of the top 16 include 1995, 1997, 1998, 1999, and 2000. Only 1996 failed to make the list (because of the short-term cooling mentioned already). \* "We had record snows in the winter of 2009-2010, and also in 2010-2011." So what? This is nothing more than the difference between weather (short-term seasonal changes) and climate (the long-term average of weather over decades and centuries and longer). Our local weather tells us nothing about another continent, or the global average; it is only a local effect, determined by short-term atmospheric and oceano-graphic conditions.[ 16] In fact, warmer global temperatures mean more moisture in the atmosphere, which increases the intensity of normal winter snowstorms. In this particular case, the climate change critics forget that the early winter of November-December 2009 was actually very mild and warm, and then only later in January and February did it get cold and snow heavily. That warm spell in early winter helped bring more moisture into the system, so that when cold weather occurred, the snows were worse. In addition, the snows were unusually heavy only in North America; the rest of the world had different weather, and the global climate was warmer than average. Also, the summer of 2010 was the hottest on record, breaking the previous record set in 2009. \* "Carbon dioxide is good for plants, so the world will be better off." Who do they think they're kidding? The Competitive Enterprise Institute (funded by oil and coal companies and conservative foundations[ 17]) has run a series of shockingly stupid ads concluding with the tag line "Carbon dioxide: they call it pollution, we call it life." Anyone who knows the basic science of earth's atmosphere can spot the gross inaccuracies in this ad.[ 18] True, plants take in carbon dioxide that animals exhale, as they have for millions of years. But the whole point of the global warming evidence (as shown from ice cores) is that the delicate natural balance of carbon dioxide has been thrown off balance by our production of too much of it, way in excess of what plants or the oceans can handle. As a consequence, the oceans are warming[ 19, 20] and absorbing excess carbon dioxide making them more acidic. Already we are seeing a shocking decline in coral reefs ("bleaching") and extinctions in many marine ecosystems that can't handle too much of a good thing. Meanwhile, humans are busy cutting down huge areas of temperate and tropical forests, which not only means there are fewer plants to absorb the gas, but the slash and burn practices are releasing more carbon dioxide than plants can keep up with. There is much debate as to whether increased carbon dioxide might help agriculture in some parts of the world, but that has to be measured against the fact that other traditional "breadbasket" regions (such as the American Great Plains) are expected to get too hot to be as productive as they are today. The latest research[ 21] actually shows that increased carbon dioxide inhibits the absorption of nitrogen into plants, so plants (at least those that we depend upon today) are not going to flourish in a greenhouse world. It is difficult to know if those who tell the public otherwise are ignorant of basic atmospheric science and global geochemistry, or if they are being cynically disingenuous. \* "I agree that climate is changing, but I'm skeptical that humans are the main cause, so we shouldn't do anything." This is just fence sitting. A lot of reasonable skeptics deplore the right wing's rejection of the reality of climate change, but still want to be skeptical about the cause. If they want proof, they can examine the huge array of data that points directly to human caused global warming.[ 22] We can directly measure the amount of carbon dioxide humans are producing, and it tracks exactly with the amount of increase in atmospheric carbon dioxide. Through carbon isotope analysis, we can show that this carbon dioxide in the atmosphere is coming directly from our burning of fossil fuels, not from natural sources. We can also measure the drop in oxygen as it combines with the increased carbon levels to produce carbon dioxide. We have satellites in space that are measuring the heat released from the planet and can actually see the atmosphere getting warmer. The most crucial evidence emerged only within the past few years: climate models of the greenhouse effect predict that there should be cooling in the stratosphere (the upper layer of the atmosphere above 10 km or 6 miles in elevation), but warming in the troposphere (the bottom layer below 10 km or 6 miles), and that's exactly what our space probes have measured. Finally, we can rule out any other suspects (see above): solar heat is decreasing since 1940, not increasing, and there are no measurable increases in cosmic rays, methane, volcanic gases, or any other potential cause. Face it -- it's our problem. Why Do People Continue to Question the Reality of Climate Change? Thanks to all the noise and confusion over climate change, the general public has only a vague idea of what the debate is really about, and only about half of Americans think global warming is real or that we are to blame.[ 23] As in the evolution/creationism debate, the scientific community is virtually unanimous on what the data demonstrate about anthropogenic global warming. This has been true for over a decade. When science historian Naomi Oreskes[ 24] surveyed all peer-reviewed papers on climate change published between 1993 and 2003 in the world's leading scientific journal, Science, she found that there were 980 supporting the idea of human-induced global warming and none opposing it. In 2009, Doran and Kendall Zimmerman[ 25] surveyed all the climate scientists who were familiar with the data. They found that 95-99% agreed that global warming is real and human caused. In 2010, the prestigious Proceedings of the National Academy of Sciences published a study that showed that 98% of the scientists who actually do research in climate change are in agreement over anthropogenic global warming.[ 26] Every major scientific organization in the world has endorsed the conclusion of anthropogenic climate change as well. This is a rare degree of agreement within such an independent and cantankerous group as the world's top scientists. This is the same degree of scientific consensus that scientists have achieved over most major ideas, including gravity, evolution, and relativity. These and only a few other topics in science can claim this degree of agreement among nearly all the world's leading scientists, especially among everyone who is close to the scientific data and knows the problem intimately. If it were not such a controversial topic politically, there would be almost no interest in debating it since the evidence is so clear-cut. If the climate science community speaks with one voice (as in the 2007 IPCC report, and every report since then), why is there still any debate at all? The answer has been revealed by a number of investigations by diligent reporters who got past the PR machinery denying global warming, and uncovered the money trail. Originally, there were no real "dissenters" to the idea of global warming by scientists who are actually involved with climate research. Instead, the forces with vested interests in denying global climate change (the energy companies, and the "free-market" advocates) followed the strategy of tobacco companies: create a smokescreen of confusion and prevent the American public from recognizing scientific consensus. As the famous memo[ 27] from the tobacco lobbyists said "Doubt is our product." The denialists generated an anti-science movement entirely out of thin air and PR. The evidence for this PR conspiracy has been well documented in numerous sources. For example, Oreskes and Conway revealed from memos leaked to the press that in April 1998 the right-wing Marshall Institute, SEPP (Fred Seitz's lobby that aids tobacco companies and polluters), and ExxonMobil, met in secret at the American Petroleum Institute's headquarters in Washington, D.C. There they planned a $20 million campaign to get "respected scientists" to cast doubt on climate change, get major PR efforts going, and lobby Congress that global warming isn't real and is not a threat. The right-wing institutes and the energy lobby beat the bushes to find scientists -- any scientists -- who might disagree with the scientific consensus. As investigative journalists and scientists have documented over and over again,[ 28] the denialist conspiracy essentially paid for the testimony of anyone who could be useful to them. The day that the 2007 IPCC report was released (Feb. 2, 2007), the British newspaper The Guardian reported that the conservative American Enterprise Institute (funded largely by oil companies and conservative think tanks) had offered $10,000 plus travel expenses to scientists who would write negatively about the IPCC report.[ 29] In February 2012, leaks of documents from the denialist Heartland Institute revealed that they were trying to influence science education, suppress the work of scientists, and had paid off many prominent climate deniers, such as Anthony Watts, all in an effort to circumvent the scientific consensus by doing an "end run" of PR and political pressure. Other leaks have shown 9 out of 10 major climate deniers are paid by ExxonMobil.[ 30] We are accustomed to hired-gun "experts" paid by lawyers to muddy up the evidence in the case they are fighting, but this is extraordinary -- buying scientists outright to act as shills for organizations trying to deny scientific reality. With this kind of money, however, you can always find a fringe scientist or crank or someone with no relevant credentials who will do what they're paid to do. Fishing around to find anyone with some science background who will agree with you and dispute a scientific consensus is a tactic employed by the creationists to sound "scientific". The NCSE created a satirical "Project Steve,"[ 31] which demonstrated that there were more scientists who accept evolution named "Steve" than the total number of "scientists who dispute evolution". It may generate lots of PR and a smokescreen to confuse the public, but it doesn't change the fact that scientists who actually do research in climate change are unanimous in their insistence that anthropogenic global warming is a real threat. Most scientists I know and respect work very hard for little pay, yet they still cannot be paid to endorse some scientific idea they know to be false. The climate deniers have a lot of other things in common with creationists and other anti-science movements. They too like to quote someone out of context ("quote mining"), finding a short phrase in the work of legitimate scientists that seems to support their position. But when you read the full quote in context, it is obvious that they have used the quote inappropriately. The original author meant something that does not support their goals. The "Climategate scandal" is a classic case of this. It started with a few stolen emails from the Climate Research Unit of the University of East Anglia. If you read the complete text of the actual emails[ 32] and comprehend the scientific shorthand of climate scientists who are talking casually to each other, it is clear that there was no great "conspiracy" or that they were faking data. All six subsequent investigations have cleared Philip Jones and the other scientists of the University of East Anglia of any wrongdoing or conspiracy.[ 33] Even if there had been some conspiracy on the part of these few scientists, there is no reason to believe that the entire climate science community is secretly working together to generate false information and mislead the public. If there's one thing that is clear about science, it's about competition and criticism, not conspiracy and collusion. Most labs are competing with each other, not conspiring together. If one lab publishes a result that is not clearly defensible, other labs will quickly correct it. As James Lawrence Powell wrote: Scientists…show no evidence of being more interested in politics or ideology than the average American. Does it make sense to believe that tens of thousands of scientists would be so deeply and secretly committed to bringing down capitalism and the American way of life that they would spend years beyond their undergraduate degrees working to receive master's and Ph.D. degrees, then go to work in a government laboratory or university, plying the deep oceans, forbidding deserts, icy poles, and torrid jungles, all for far less money than they could have made in industry, all the while biding their time like a Russian sleeper agent in an old spy novel? Scientists tend to be independent and resist authority. That is why you are apt to find them in the laboratory or in the field, as far as possible from the prying eyes of a supervisor. Anyone who believes he could organize thousands of scientists into a conspiracy has never attended a single faculty meeting.[ 34] There are many more traits that the climate deniers share with the creationists and Holocaust deniers and others who distort the truth. They pick on small disagreements between different labs as if scientists can't get their story straight, when in reality there is always a fair amount of give and take between competing labs as they try to get the answer right before the other lab can do so. The key point here is that when all these competing labs around the world have reached a consensus and get the same answer, there is no longer any reason to doubt their common conclusion. The anti-scientists of climate denialism will also point to small errors by individuals in an effort to argue that the entire enterprise cannot be trusted. It is true that scientists are human, and do make mistakes, but the great power of the scientific method is that peer review weeds these out, so that when scientists speak with consensus, there is no doubt that their data are checked carefully Finally, a powerful line of evidence that this is a purely political controversy, rather than a scientific debate, is that the membership lists of the creationists and the climate deniers are highly overlapping. Both anti-scientific dogmas are fed to their overlapping audiences through right-wing media such as Fox News, Glenn Beck, and Rush Limbaugh. Just take a look at the "intelligent-design" cre-ationism website for the Discovery Institute. Most of the daily news items lately have nothing to do with creationism at all, but are focused on climate denial and other right-wing causes.[ 35] If the data about global climate change are indeed valid and robust, any qualified scientist should be able to look at them and see if the prevailing scientific interpretation holds up. Indeed, such a test took place. Starting in 2010, a group led by U.C. Berkeley physicist Richard Muller re-examined all the temperature data from the NOAA, East Anglia Hadley Climate Research Unit, and the Goddard Institute of Space Science sources. Even though Muller started out as a skeptic of the temperature data, and was funded by the Koch brothers and other oil company sources, he carefully checked and re-checked the research himself. When the GOP leaders called him to testify before the House Science and Technology Committee in spring 2011, they were expecting him to discredit the temperature data. Instead, Muller shocked his GOP sponsors by demonstrating his scientific integrity and telling the truth: the temperature increase is real, and the scientists who have demonstrated that the climate is changing are right (Fig. 5). In the fall of 2011, his study was published, and the conclusions were clear: global warming is real, even to a right-wing skeptical scientist. Unlike the hired-gun scientists who play political games, Muller did what a true scientist should do: if the data go against your biases and preconceptions, then do the right thing and admit it -- even if you've been paid by sponsors who want to discredit global warming. Muller is a shining example of a scientist whose integrity and honesty came first, and did not sell out to the highest bidder.[ 36] \* Science and Anti-Science The conclusion is clear: there's science, and then there's the anti-science of global warming denial. As we have seen, there is a nearly unanimous consensus among climate scientists that anthropogenic global warming is real and that we must do something about it. Yet the smokescreen, bluster and lies of the deniers has created enough doubt so that only half of the American public is convinced the problem requires action. Ironically, the U.S. is almost alone in questioning its scientific reality. International polls taken of 33,000 people in 33 nations in 2006 and 2007 show that 90% of their citizens regard climate change as a serious problem[ 37] and 80% realize that humans are the cause of it.[ 38] Just as in the case of creationism, the U.S. is out of step with much of the rest of the world in accepting scientific reality. It is not just the liberals and environmentalists who are taking climate change seriously. Historically conservative institutions (big corporations such as General Electric and many others such as insurance companies and the military) are already planning on how to deal with global warming. Many of my friends high in the oil companies tell me of the efforts by those companies to get into other forms of energy, because they know that cheap oil will be running out soon and that the effects of burning oil will make their business less popular. BP officially stands for "British Petroleum," but in one of their ad campaigns about 5 years ago, it stood for "Beyond Petroleum."[ 39] Although they still spend relatively little of their total budgets on alternative forms of energy, the oil companies still see the handwriting on the wall about the eventual exhaustion of oil -- and they are acting like any company that wants to survive by getting into a new business when the old one is dying. The Pentagon (normally not a left-wing institution) is also making contingency plans for how to fight wars in an era of global climate change, and analyzing what kinds of strategic threats might occur when climate change alters the kinds of enemies we might be fighting, and water becomes a scarce commodity. The New York Times reported[ 40] that in December 2008, the National Defense University outlined plans for military strategy in a greenhouse world. To the Pentagon, the big issue is global chaos and the potential of even nuclear conflict. The world must "prepare for the inevitable effects of abrupt climate change -- which will likely come [the only question is when] regardless of human activity." Insurance companies have no political axe to grind. If anything, they tend to be on the conservative side. They are simply in the business of assessing risk in a realistic fashion so they can accurately gauge their future insurance policies and what to charge for them. Yet they are all investing heavily in research on the disasters and risks posed by climatic change. In 2005, a study commissioned by the re-insurer Swiss Re said, "Climate change will significantly affect the health of humans and ecosystems and these impacts will have economic consequences."[ 41] Some people may still try to deny scientific reality, but big businesses like oil and insurance and conservative institutions like the military cannot afford to be blinded or deluded by ideology. They must plan for the real world that we will be seeing in the next few decades. They do not want to be caught unprepared and harmed by global climatic change when it threatens their survival. Neither can we as a society.

#### Reducing emissions now prevents extinction---it’s not too late to solve

Nuccitelli 12 – Dana, environmental scientist at a private environmental consulting firm in Sacramento and has a Bachelor's Degree in astrophysics from the University of California at Berkeley, and a Master's Degree in physics from the University of California at Davis, 2012, “Realistically What Might The Future Climate Look Like?”, http://thinkprogress.org/climate/2012/09/01/784931/realistically-what-might-the-future-climate-look-like/

This is Why Reducing Emissions is Critical¶ We’re not yet committed to surpassing 2°C global warming, but as Watson noted, we are quickly running out of time to realistically give ourselves a chance to stay below that ‘danger limit’. However, 2°C is not a do-or-die threshold. Every bit of CO2 emissions we can reduce means that much avoided future warming, which means that much avoided climate change impacts. As Lonnie Thompson noted, the more global warming we manage to mitigate, the less adaption and suffering we will be forced to cope with in the future.¶ Realistically, based on the current political climate (which we will explore in another post next week), limiting global warming to 2°C is probably the best we can do. However, there is a big difference between 2°C and 3°C, between 3°C and 4°C, and anything greater than 4°C can probably accurately be described as catastrophic, since various tipping points are expected to be triggered at this level. Right now, we are on track for the catastrophic consequences (widespread coral mortality, mass extinctions, hundreds of millions of people adversely impacted by droughts, floods, heat waves, etc.). But we’re not stuck on that track just yet, and we need to move ourselves as far off of it as possible by reducing our greenhouse gas emissions as soon and as much as possible.¶ There are of course many people who believe that the planet will not warm as much, or that the impacts of the associated climate change will be as bad as the body of scientific evidence suggests. That is certainly a possiblity, and we very much hope that their optimistic view is correct. However, what we have presented here is the best summary of scientific evidence available, and it paints a very bleak picture if we fail to rapidly reduce our greenhouse gas emissions.¶ If we continue forward on our current path, catastrophe is not just a possible outcome, it is the most probable outcome. And an intelligent risk management approach would involve taking steps to prevent a catastrophic scenario if it were a mere possibility, let alone the most probable outcome. This is especially true since the most important component of the solution – carbon pricing – can be implemented at a relatively low cost, and a far lower cost than trying to adapt to the climate change consequences we have discussed here (Figure 4).¶ Climate contrarians will often mock ‘CAGW’ (catastrophic anthropogenic global warming), but the sad reality is that CAGW is looking more and more likely every day. But it’s critical that we don’t give up, that we keep doing everything we can do to reduce our emissions as much as possible in order to avoid as many catastrophic consequences as possible, for the sake of future generations and all species on Earth. The future climate will probably be much more challenging for life on Earth than today’s, but we still can and must limit the damage.

#### Scientific consensus proves warming is real, anthropogenic, and causes extinction – SPS solves

Flournoy 12 –Dan Flournoy, PhD and MA from the University of Texas, Former Dean of the University College at Ohio University, Former Associate Dean at State University of New York and Case Institute of Technology, Project Manager for University/Industry Experiments for the NASA ACTS Satellite, Currently Professor of Telecommunications at Scripps College of Communications @ Ohio University, January 2012, "Solar Power Satellites," Springer Briefs in Space Development

In the Online Journal of Space Communication , Dr. Feng Hsu, a NASA scientist at Goddard Space Flight Center, a research center in the forefront of science of space and Earth, writes, “The **evidence of global warming is alarming**,” noting the potential for a catastrophic planetary climate change is real and troubling (Hsu 2010 ) . Hsu and his NASA colleagues were engaged in monitoring and analyzing climate changes on a global scale, through which they received first-hand scientific information and data relating to global warming issues, including the dynamics of polar ice cap melting. After discussing this research with colleagues who were world experts on the subject, he wrote: I now have no doubt global temperatures are rising, and that global warming is a serious problem confronting all of humanity. No matter whether these trends are due to human interference or to the cosmic cycling of our solar system, there are two basic facts that are crystal clear: (a) there is overwhelming scientific evidence showing **positive correlations between the level of CO2 concentrations** in Earth’s atmosphere **with respect to** the historical **fluctuations of global temperature** changes; and (b) the overwhelming majority of the world’s scientific community is in agreement about the risks of a potential catastrophic global climate change. That is, if we humans continue to ignore this problem and do nothing, if we continue dumping huge quantities of greenhouse gases into Earth’s biosphere, humanity will be at dire risk (Hsu 2010 ) . As a technology risk assessment expert, Hsu says he can show with some confidence that the planet will face more risk doing nothing to curb its fossil-based energy addictions than it will in making a fundamental shift in its energy supply. “This,” he writes, “is because the risks of a catastrophic anthropogenic climate change can be potentially the **extinction of human species**, a risk that is simply too high for us to take any chances” (Hsu 2010 ) . It was this NASA scientist’s conclusion that humankind must now embark on the next era of “sustainable energy consumption and re-supply, the most obvious source of which is the mighty energy resource of our Sun” (Hsu 2010 ) (Fig . 2.1 ).

#### CO2 emissions will destroy the ocean - causes extinction

Sify, Citing Professors @ University of Queensland and North Carolina, 10 (Sify News, Citing Ove Hoegh-Gulberg, Professor @ University of Queensland and Director of the Global Change Institute AND Citing John Bruno, Associate Professor of Marine Science @ UNC, “Could unbridled climate changes lead to human extinction?,” June 19th, <http://www.sify.com/news/could-unbridled-climate-changes-lead-to-human-extinction-news-international-kgtrOhdaahc.html>)

Sydney: Scientists have sounded alarm bells about how **growing concentrations of greenhouse gases are driving irreversible and dramatic changes in the** way the **oceans** function, **providing evidence that humankind could well be on the way to** the next great **extinction**. **The findings** of the comprehensive report: 'The impact of climate change on the world's marine ecosystems' **emerged from a synthesis of recent research** on the world's oceans, **carried out by** two of **the world's leading marine scientists.**  One of the authors of the report is Ove Hoegh-Guldberg, professor at The University of Queensland and the director of its Global Change Institute (GCI). '**We may see sudden, unexpected changes that have serious ramifications for** the overall well-being of humans, including **the capacity of the planet to support people**. This is further evidence that **we are well on the way to the next great extinction event**,' says Hoegh-Guldberg. 'The findings have enormous implications for mankind, particularly **if the trend continues**. The earth's ocean, which produces half of the oxygen we breathe and absorbs 30 per cent of human-generated carbon dioxide, is equivalent to its heart and lungs. This study shows worrying signs of ill-health. It's as if the earth has been smoking two packs of cigarettes a day!,' he added. 'We are entering a period in which **the ocean services upon which humanity depends are** undergoing massive change and in some cases **beginning to fail**', he added.

#### Warming magnifies all impacts and makes global conflicts inevitable

Ginsborg et al. 12 – Mikkel Funder, Signe Marie Cold-Ravnkilde and Ida Peters Ginsborg - in collaboration with Nanna Callisen Bang, Denmark Institute for International Studies, 2012, "ADDRESSING CLIMATE CHANGE AND CONFLICT IN DEVELOPMENT COOPERATION EXPERIENCES FROM NATURAL RESOURCE MANAGEMENT" www.diis.dk/graphics/Publications/Reports2012/RP2012-04-Addressing-climate-change\_web.jpg.pdf

2.2 Climate change as a conﬂict multiplier¶ Climate change is therefore best seen as a conﬂict multiplier, rather than as a major direct cause of conﬂict in itself. **Climate change may aggravate and extend the scope of existing conﬂicts, or trigger underlying and latent conﬂicts to break out into the open**. ¶ Previous studies have identiﬁed a number of areas in which **climate change may contribute to a worsening of conﬂicts** (Brown & Crawford 2009). These include:¶ • Land and water access. Access and use rights to land are a key feature in most situations where climate change has contributed to natural resource conﬂicts so far. Climate change can **intensify existing conﬂicts over land**, as land becomes less fertile or is ﬂooded, or if existing resource sharing arrangements between diﬀerent users and land use practices are disrupted. **In some parts of Africa, climate change may lead to a decline in available water resources of some 10–20% by the end of the century** (op cit.). This may **intensify existing competition** for access to water at intra-state and/or subnational levels. ¶ • Food security. Reduced rainfall and rising sea levels may lead to a decline in agricultural production and a substantial loss of arable land in some parts of Africa. Reduced yields for own consumption and increasing domestic food prices may in some cases lead to **civil unrest, and competition over access to land may intensify**.¶ • Migration and displacement. In some cases, increased scarcity of and competition over access to water and arable land may contribute to internal or regional migration, and disasters such as ﬂoods may lead to temporary or long-term local displacement. This may in turn **strengthen conﬂicts between host societies/communities and migrants** looking for access to new land and resources. ¶ • Increasing inequality and injustice. Through processes such as the above, some population groups may be particularly hard hit, leading to increased inequality and a sense of injustice. This may **intensify existing grievances and disputes** between natural resource users and/or between resource users and outside actors such as governments – thereby increasing the risk and intensity of conﬂict.

#### Warming causes African instability

Fuerth 8 – Fuerth, Research Professor of International Affairs at George Washington University, former National Security Advisor to VP Al Gore, 2008, Leon, Severe Climate Change over the Next Thirty Years, In Climatic Cataclysm, p. 142

In sub-Saharan Africa, hundreds of millions of already vulnerable persons will be exposed to intensified threat of death by disease, malnutrition, and strife. Natural causes such as long-term drought will play a major role, but political factors either will exacerbate these disasters or may even precipitate them as the result of a mix of mismanagement and miscalculated policy. Such was the case in Ethiopia during the rule of Colonel Mengistu Haile Mariam. The ongoing genocide in Darfur may have begun as a consequence of water scarcity, as noted elsewhere in this report.¶ Under conditions of severe global climate change environmental factors will push already failed states deeper into the abyss, **while driving other states toward the brink**. The stronger regional states, such as South Africa, will be affected not only by internal social and economic stress related to changing climatic patterns but also by southward flows of refugees hoping for rescue and safety.¶ Contemporary Africa aspires to be a unified system but falls far short. Severe climate change would, in a grim way, provide for the first time the missing element of connectivity. **From one end of the African continent to the other**, severe climate change will become the common denominator of turbulence and destruction.

#### Great power nuclear war

Glick 7 Caroline Glick 7, deputy managing editor of The Jerusalem Post, Senior Fellow for Middle East Affairs of the Center for Security Policy, “Condi's African holiday”, December 11, http://www.rightsidenews.com/20071211309/editorial/us-opinion-and-editorial/our-world-condis-african-holiday.html

The Horn of Africa is a dangerous and strategically vital place. Small wars, which rage continuously, can easily escalate into big wars. Local conflicts have regional and global aspects. All of the conflicts in this tinderbox, which controls shipping lanes from the Indian Ocean into the Red Sea, can potentially give rise to regional, and indeed global conflagrations between competing regional actors and global powers.

#### SPS facilitates a complete transition away from conventional energy

Flournoy 12 – Don Flournoy, PhD and MA from the University of Texas, Former Dean of the University College at Ohio University, Former Associate Dean at State University of New York and Case Institute of Technology, Project Manager for University/Industry Experiments for the NASA ACTS Satellite, Currently Professor of Telecommunications at Scripps College of Communications at Ohio University, "Solar Power Satellites," January, Springer Briefs in Space Development, Book

One of the obvious opportunities for solar power satellites is to become an **on-demand source of electric power for terrestrial utilities.** Once Sunsat providers can demonstrate the capability to direct continuous radio or light frequency power beams to production sites, the owners of coal-fired generation stations will quickly discover the value of this service. The same will also be true of **nuclear, gas-fired, biomass** and other such plants. With electrical power production ratings of 1 gw or more, solar satellite systems can be designed to meet the short- and long-term **needs of the terrestrial power plants at their** existing locations, at first to complement but eventually to replace their current fuel feedstocks. An attractive feature of this approach for space solar power investors is that the utilities have a predictable need for energy in great quantities. Since the power utilities are already connected to an electrical power grid, often covering regions larger than a single state or nation, the Sunsat people won’t have to also be in the terrestrial distribution business. Whether producing power from coal, nuclear, gas, biomass or other sources, **power utilities can be expected to step forward as early users** of this new space asset to begin reducing their mining and transportation costs. The use of scrubbers and filters will be greatly reduced, if needed at all. Problems related to spent fuel disposal and toxic waste management should be fewer. But mainly the utilities will become clients (and possibly investors) in the Sunsat business to guarantee a **sustainable night-and-day fuel source.**

#### SPS overcomes the flaws of other energy sources – terrestrial alternatives fail

Flournoy 12 – Don Flournoy, PhD and MA from the University of Texas, Former Dean of the University College at Ohio University, Former Associate Dean at State University of New York and Case Institute of Technology, Project Manager for University/Industry Experiments for the NASA ACTS Satellite, Currently Professor of Telecommunications at Scripps College of Communications at Ohio University, "Solar Power Satellites," January, Springer Briefs in Space Development, Book

Alternative terrestrial energy is not the complete answer, either. According to Woodcock, the limitation of Earth-based renewable energy sources is that they are not “demand” sources; that is, **they are only intermittently available.** Terrestrial solar power works when the Sun shines. Terrestrial wind power works when the wind blows. Terrestrial hydroelectric power is a way of storing water energy until users demand it. This process can include hydroelectric pumped storage, which is the lifting of water uphill where it is held until released to create electricity as it flows through turbines. But there is little capacity remaining on the planet for hydroelectric installations. Geothermal energy is also way to tap stored energy in the Earth itself. Batteries, water electrolysis and hydrogen storage in fuel cells are other ways to provide storage. But to run a **modern power grid** exclusively (or even largely) on terrestrial renewable energy, he says, would **require enormous amounts of storage**, and **storage is expensive**. Woodcock concludes that [SPS] solar power satellites are a potential solution because they can be positioned in space over a particular location to which they can stream continuous sunlight. Supplying power around the clock, such an energy system can serve as a demand source with very little storage required. He also suggests, given constant solar pointing, the photovoltaic area could probably be reduced by a factor of 10–100 by using concentrators. Land designated for receiving sites might also serve dual or multiple purposes. The National Space Society (NSS) hosts annual conferences that include sessions on space solar power. The organization’s website includes one of the most complete archives on space solar research. It also has taken positions of advocacy, stating that “all viable energy options should be pursued with vigor, [but that] Sun/ Sat power (**SSP) has a number of** substantial advantages over other energy sources.” The NSS lists several of these advantages: • Unlike oil, gas, ethanol and coal, SSP does not emit greenhouse gases. • Unlike nuclear power plants, SSP does not **produce hazardous waste** that needs to be stored and guarded for hundreds of years. • **Unlike terrestrial solar and wind** power plants, **SSP can be available in huge quantities 24-hours-a-day, 7 days a week. It produces regardless of cloud cover, daylight, or wind speed.** • Unlike coal and nuclear fuels, SSP does not require environmentally problematic mining operations. • Unlike nuclear power plants, SSP doesnot **provide** potential **targets for terrorists** (National Space Society 2008 ).

#### The US is key---US action sends a signal that revitalizes international cooperation on warming even before the energy created

Ritter 11-24 – Karl Ritter, reporter for the Huffington Post, November 24th, 2012, "U.N. Climate Talks: Will U.S. Take More Central Role After Bout Of Extreme Weather?" [www.huffingtonpost.com/2012/11/24/un-climate-un-qatar-united-states\_n\_2184357.html?view=print&comm\_ref=false](http://www.huffingtonpost.com/2012/11/24/un-climate-un-qatar-united-states_n_2184357.html?view=print&comm_ref=false)

"I think there will be expectations from countries to hear a new voice from the United States," said Jennifer Morgan, director of the climate and energy program at the World Resources Institute in Washington.¶ The climate officials and environment ministers meeting in the Qatari capital of Doha will not come up with an answer to the global temperature rise that is already melting Arctic sea ice and permafrost, raising and acidifying the seas, and shifting rainfall patterns, which has an impact on floods and droughts.¶ They will focus on side issues, like extending the Kyoto protocol – an expiring emissions pact with a dwindling number of members – and ramping up climate financing for poor nations.¶ **They will also try to structure the talks for a new global climate deal that is supposed to be adopted in 2015, a process in which American leadership is considered crucial**.¶ Many were disappointed that Obama didn't put more emphasis on climate change during his first term. He took some steps to rein in emissions of heat-trapping gases, such as sharply increasing fuel efficiency standards for cars and trucks. But a climate bill that would have capped U.S. emissions stalled in the Senate.¶ "We need the U.S. to engage even more," European Union Climate Commissioner Connie Hedegaard told The Associated Press. "Because that can change the dynamic of the talks."¶ The world tried to move forward without the U.S. after the Bush Administration abandoned the Kyoto Protocol, a 1997 pact limiting greenhouse emissions from industrialized nations. As that agreement expires this year, the climate curves are still pointing in the wrong direction.¶ The concentration of heat-trapping gases like carbon dioxide has jumped 20 percent since 2000, primarily from the burning of fossil fuels like coal and oil, according to a U.N. report released this week. And each year, the gap between what researchers say must be done to reverse this trend, and what's actually being done, gets wider.¶ Bridging that gap, through clean technology and renewable energy, is not just up to the U.S., but to countries like India and China, whose carbon emissions are growing the fastest as their economies expand.¶ But Obama raised hopes of a more robust U.S. role in the talks when he called for a national "conversation" on climate change after winning re-election. The issue had been virtually absent in the presidential campaigning until Hurricane Sandy slammed into the East Coast.¶ **The president still faces domestic political constraints**, and there's little hope of the U.S. increasing its voluntary pledge in the U.N. talks of cutting emissions by 17 percent by 2020, compared to 2005 levels.¶ Still, just a signal that Washington has faith in the international process would go a long way, analysts said.¶ "**The** perception **of many negotiators and countries is that the U.S. is not really interested in increasing action on climate change** in general," said Bill Hare, senior scientist at Climate Analytics, a non-profit organization based in Berlin.

#### SPS solves for global emissions

Kammen 7 – Professor of Public Policy @ UC Berkeley (Daniel, "Green Jobs Created by Global Warming Initiative," September 25th, http://www.unep.org/civil\_society/GCSF9/pdfs/karmen-senate.pdf)

In addition to supporting domestic job creation, clean energy is an important and fastest growing international sector, and one where overseas policy can be used to support poor developing regions – such as Africa (Jacobsen and Kammen, 2007) and Central America – as well as regaining market share in solar, fuel cell and wind technologies, where European nations and Japan have invested heavily and are reaping the benefits of month to year backlogs in clean energy orders. Some of those orders are for U. S. installations, but many more could be if we choose to make clean and green energy a national priority for both domestic installation and overseas export. Technology exports have impacts well beyond domestic job creation. In fact, if properly managed, the development of a thriving ‘cleantech’ sector can address a vital global issues, namely the emissions trajectories of major developing nations. China and India are often singled out for attention as major, emerging global emitters. China, in fact, will become the world’s largest greenhouse emitter in the near future, if it has not already. This fact, is often used – mistakenly in my view – to argue against unilateral climate protection efforts by nations such as the United States.  This view is shortsighted in two vital respects. First, China is demonstrably already suffering from the impacts of fossil fuel use. Crop yields in many parts of China are significantly lower than they would be without the significant sulfur and particulate burden that results from domestic coal combustion. (In fact, coal combustions emissions from China have significant air quality impacts on Japan, and can be measured in the U. S. as well.) Crop losses of over 20% have been reported in part of China, with the decrease unambiguously linked to air pollution. China also experiences significant human health impacts from this pollution burden as well. Second, China has committed, on paper, to a ‘circular economy’ where waste is reduced and overall productivity is enhanced. If the United States were to become a major exporter, or even a partner, in the production of low-emissions technologies – from truly carbon-capture coal-fired power plants, to increased numbers of solar, wind, and biofuel technologies – China would be an eager trading partner, so that they could install increasing numbers of low-emissions technologies. This would directly help the Chinese economy and their environmental and public health situation**.** On both of these grounds, U. S. domestic expansion of the clean energy sector will likely positively impact the ability and the actions of a number of emerging economies to ‘go green’.

#### Fossil fuel dependence is unsustainable – only SPS-ALPHA solves world energy needs and can be exported globally

Dvorsky 11-28 – George Dvorsky, writer for Io9, a daily science and technology publication, November 28th, 2012, "How space-based solar power will solve all our energy needs" io9.com/5963955/how-space+based-solar-power-will-solve-all-our-energy-needs

Humanity's demand for energy is growing at an astonishing rate. Combine this with an ever-dwindling supply of fossil fuels, and it becomes painfully clear that something innovative and powerful is required. There's one high-tech proposal that holds tremendous promise — an idea that has been around since the late 1960s. Here's how space-based solar power will **eventually** solve all our energy needs.¶ Humans needs more power¶ Assuming that economic progress and globalization continues at its current pace, **we'll need to produce twice the amount of energy that's consumed today by the 2030s — what will reach a monumental 220 trillion kiloWatt hours per year. And by the end of the century, we'll need four times the current rate of consumption.**¶ **Just as importantly, we're also going to have to kick the fossil fuel habit — and not only because** it'll eventually run out**. Rising CO2 emissions are wreaking havoc on the Earth's atmosphere, what's creating environmentally deleterious side-effects at a rate faster than expected.**¶ Moreover, if greenhouse gases are to be brought under control over the course of the next several decades, we'll need to get upwards of 90% of all our energy from either renewable or nuclear sources.¶ While there are a number of proposals on the table for how we might be able to meet these challenges, **none** really **appear to be truly viable**.¶ Except for solar powered satellites.¶ Obvious benefits¶ A closer look at a space-based solution yields a lengthy list of advantages.¶ Solar powered satellites **don't produce any greenhouse gases**, nor do they take up valuable real estate on Earth. Once the initial costs are met, they would be relatively cheap to maintain; the solar modules used for generating solar energy have a long service life, not to mention the astounding ROI that would come from a virtually unlimited energy source.¶ Additionally, they're not constrained by night/day cycles, the weather, or the changing seasons. And indeed, they would be much more efficient than any kind of ground-based station. The collection of solar energy in space is seven times greater per unit area than on the surface of the planet. Moreover, **the amount of solar energy available up there is staggering — on the order of** billions **of times greater than what we draw today; the Earth receives only one part in 2.3 billion of the Sun's output**. The potential for scalability is enormous, to say the least.¶ Solar powered satellites won't be prone to terrorist attacks and they'll **reduce geopolitical pressure for oil.** According to futurist Keith Henson, space-based solar could be used to power vehicles, like electric cars, or by enabling the production of synthetic fuels — which at a penny per kiloWatt hour would result in gasoline that costs one dollar a gallon.¶ At the same time, space-based solar would provide true energy independence for those nations who choose to implement it. And on top of that, the energy could be exported to virtually anywhere in the world; it would be especially valuable for isolated areas of the globe, including Africa and India.¶ Lastly, **space-based solar power would also yield** tremendous benefits to human and robotic space exploration**, including the powering of off-planet colonies on the Moon, Mars, and space stations.** It could also serve as the first seed in the development of a Dyson Sphere — a massive array of solar collectors that would completely envelope the sun at a distance of about 1 AU.¶ How it's going to work¶ Back in the late 1960s, Peter Glaser proposed the idea of solar powered satellites (SPS), what he envisioned as space-based photovoltaics that could transfer energy wirelessly back down to Earth. His design called for a large platform positioned in space in a high Earth orbit that would continuously collect and convert solar energy into electricity. In turn, that power would be used to drive a wireless power transmission (WPT) that beams the solar energy to receiving stations on Earth — what would be comprised of massive receiving dishes.¶ A number of visionaries have updated Glaser's vision to include the use of a microwave wireless power transmitter. This would involve large discrete structures (like a solar array and transmitter) that would have to be assembled in space. SPS systems could also include a modular electric/diode array laser WPT concept, involving self-assembling solar power-laser-thermal modules. Other designs call for an extremely modular microwave WPT SPS "sandwich structure" concept, requiring a significant number of small solar power-microwave-thermal modules that would be robotically assembled on orbit.¶ But to make it happen, we'll need to develop low-cost, environmentally-friendly launch vehicles. Eventually we'll send the materials up in a space elevator, but until then we'll have to come up with something more efficient. Thankfully, SpaceX and other private firms are already working on more efficient launch solutions.¶ Additionally, we'll require large scale construction and operations stations in orbit — space-based workplaces that would be more complex, larger, and more energy-demanding than the ISS. They would allow for the production of large, simple panels, that are easy to assemble and consist of many identical parts. Eventually, it may be possible to construct an entire flotilla of these solar collectors using materials extracted from asteroids.¶ Design proposals¶ As word gets out about the potential for SPS, and as the technology catches up to the idea, a number of design proposals have been put forth; this isn't just idle speculation anymore — it's something that's just about ready for prime-time.¶ For example, there's SPS-ALPHA (Solar Power Satellite via Arbitrarily Large PHased Array) which is being developed by NASA's John Mankins. Using a "biomimetic" approach, the project calls for huge platforms constructed from tens of thousands of small elements that could deliver tens to thousands of megawatts via wireless power transmission.¶ It would do this by using a large array of individually controlled thin-film mirrors outfitted on the curved surface of a satellite. These adjustable mirrors would intercept and redirect incoming sunlight toward photovoltaic cells affixed to the backside of the solar power satellite's large array. The Earth-pointing side of the array would be tiled with a collection of microwave-power transmission panels that generate the coherent, low-intensity beam of radio frequency energy and transmits that energy to Earth.¶ And what's particularly cool about this concept is that **it would enable the construction of a solar-power satellite that can be assembled entirely from individual system elements that weigh no more than 110 to 440 pounds (**50 **to 200** kilograms**), allowing all pieces to be** mass produced at low cost.

## Contention Three is Solvency

#### A prize system catalyzes SPS development and makes it economically viable

Globus 11Al Globus, Chair of the National Space Society's Space Settlement Advocacy Committee, July 2011, “A SPACE SOLAR POWER INDUSTRY FOR $2 BILLION OR YOUR MONEY BACK”

The proposed prize pays out for each kilowatt-hour (kwh – one thousand watts of energy for one hour) of power delivered from space to an operational electrical system on Earth. To receive prize money, power must be sold to a utility or other entity on Earth at near market rates. This insures that the power is delivered in a way that can and will be used, and provides additional income to the contestants. The prize is divided into three levels: $1, $0.7 and $0.3 per kwh. This is to provide continuing incentive to develop SSP at successively lower prices on the way to unsubsidized economic viability. Furthermore: 1. To encourage the development of a competitive industry, at each level the prize money is divided such that at least three satellites are needed to capture all of the funds. No individual satellite can earn more than 60% of the prize money and no two satellites more than 90%, leaving 10% for a third satellite. 2. To encourage development of multiple approaches to SSP, each satellite earning prize money at a single level must be owned and operated by a different entity and must use a substantially different approach to SSP generation. 3. To encourage development of successively more cost-effective systems, each satellite may only win prize money at a single level. Thus, this particular approach to structuring the prize will pay out all the prize money only if nine satellites are developed using at least three different approaches by at least three different companies. Table 1 describes the prize system quantitatively. Note that the number of levels, the pricing, and the percentages are somewhat arbitrary. They are chosen to give one or two satellites a real chance at profitability and the others a significant subsidy. Obviously, there may be other sets of levels that may be more effective. If successful, this prize system would require $2 billion, about one year’s development of the new human deep space system that might put humans on an asteroid in 2025, about the cost of a flagship deep space mission, or a little more than the cost of one shuttle launch6. While all of these are worthy projects, their impact pales beside the impact of a successful SSP industry. If successful, SSP could deliver essentially unlimited clean energy for a billion years and put the nations developing it in the world’s economic driver’s seat. It should also be noted that the launch systems and other development needed for a successful SSP industry would **make other space projects much easier** and cheaper than they are today. In an era of limited budgets, one wonders why billions are allocated to projects of great interest but little practical day-to-day value while projects such as SSP that could revolutionize life on Earth, not to mention space development, languish with essentially no funding.

#### Prizes are key to large-scale SPS development – the government gets the money back if companies fail

Globus 11Al Globus, Chair of the National Space Society's Space Settlement Advocacy Committee, July 2011, “A SPACE SOLAR POWER INDUSTRY FOR $2 BILLION OR YOUR MONEY BACK”

A system of prizes to develop space solar power (SSP) is proposed. If successful, a one or two billion dollar investment could kick-start a vigorous SSP industry, which in turn could provide humanity with essentially unlimited quantities of clean electrical energy. If unsuccessful, the money is returned to its source. The prize is structured to subsidize the construction of nine SSP satellites by at least three different entrants using different designs. The prize is aimed at developing small SSP systems delivering a few tens of megawatts to utilities on the ground. Under some reasonable assumptions, the prize money is sufficient to make one or perhaps two of the satellites profitable and provide a significant subsidy to the other seven. **Once small SSP systems have been successfully developed, producing large systems that can make a real difference** to global energy production **will be much easier**. While $2 billion is a great deal of money, should this effort be successful, it is reasonable to hope that Earth’s energy and greenhouse gas problems could be solved.

#### **SPS-Alpha can be up and running in a few years with only a few billion dollars – new tech ensures feasibility and low costs**

Mankins 12 – John C. Mankins, President of Artemis Innovation Management Solutions LLC is an internationally recognized leader in space systems and technology innovation, spent 25 years at NASA and CalTech's Jet Propulsion Laboratory. He holds undergraduate (Harvey Mudd College) and graduate (UCLA) degrees in Physics and an MBA in Public Policy Analysis (The Drucker School at Claremont Graduate University). Mr. Mankins is a member of the International Academy of Astronautics (IAA) and Chair of the Academy Commission III (Space Systems and Technology Development); and a member of the International Astronautical Federation (IAF), the American Institute of Aeronautics and Astronautics (AIAA), and the Sigma Xi Research Society. Editor/Authors are :Brian Wang, Director of Research. Sander Olson, Interviews and other articles Phil Wolff, Communications and social technologist. Alvin Wang. Computer, technology, social networking, and social media expert. June 7th, 2012, "A New Paradigm for Space-Based Solar Power," nextbigfuture.com/2012/06/new-paradigm-for-space-based-solar.html

Question: How exactly has the technology evolved since the 1970s? ¶ There have been a number of improvements. The **efficiency of solar photovoltaics has improved** from less than 10% efficiency to more than 30% efficiency now. I'm confident that within the next decade, solar photovoltaics could achieve efficiencies of up to 50%. There have also been **substantial improvements in key electronic components**, such as solid-state power amplifiers. The efficiencies have gone from 15% in the 1970s to **70% now**. With focused investments, we should be able to get devices with efficiencies approaching 80% by 2020. This will further increase the viability of space-based solar power. A wide range of other technologies have also improved dramatically, including **light-weight and high-strength materials, robotics, in-space propulsion and others.** ¶ Question: You are the chief architect behind the SPS-ALPHA design. What are the central aspects of this new paradigm? ¶ The SPS-ALPHA concept facilitates the design and development of a very large solar power satellite out of a large number of very small pieces. Each piece weighs perhaps 25-100 kilograms, but there are tens of thousands of pieces in the final product. **The beauty of this system is that all of the parts of the design can be manufactured readily in a standard factory – resulting in very low costs for the system hardware.** ¶ Question: So the power satellite would be composed of vast numbers of identical modules? ¶ Yes, the modules would be stackable – like pizza boxes – for ease of transportation to space, and then unstacked and assembled once they reach the operational orbit for the satellite. There might be about 6 or 8 different types of modular elements, and each type would be mass produced with from hundreds to tens of thousands of copies. They would initially be launched into a low Earth orbit, and from there transferred to a higher orbit for integration into the SPS platform. We are looking at using robotic systems to assemble the panels. ¶ Question: So your plan employs robots for most of the construction? ¶ Yes. The SPS-ALPHA architecture would only employ people on the ground to supervise the robots operating in space. The goal would be to assume the intervention of astronauts only in the event of a problem that could not be resolved using robots. As a rule of thumb, we expect that it may cost from 100-times to 1000-times more to have a suited astronaut perform a task in a high Earth orbit than to have a remotely-supervised robot do it. This field of technology has advanced rapidly in the past decade, and so we plan to employ robots extensively. ¶ Question: How long would it take to get a prototype system up and running? ¶ With sufficient funding, we could have a ground based, rudimentary prototype up and running by 2014. **An early prototype in orbit could be** built by 2017-2018. And in about a decade, a larger pilot plant could be in geosynchronous Earth orbit, generating 10 megawatts. The total cost for this roadmap could be several billion dollars, with most of the cost coming in the last few years. As a point of comparison, the pilot plant would be approximately the same size as the International Space Station, which cost $100 billion to manufacture, launch into space and assemble. **The cost savings would result from using standard, mass-produced pieces, standard launch systems and robotic assembly in space.**

#### Recent studies prove that SPS tech exists now – terrestrial solar fails

Garretson 12 – Lt Col Peter Garretson is an airpower strategist currently serving on the CSAF’s Strategic Studies Group (HAF/CK). His previous assignment was at the Institute for Defence Studies and Analyses in New Delhi as an Air Force Fellow examining Indo–US long-term space collaboration under the sponsorship of the Council on Foreign Relations. Prior to that he was the chief of future science and technology exploration for the HQ USAF Directorate of Strategic Planning (AF/A8XC), Spring 2012, "Solar Power in Space?" Strategic Studies Quarterly Spring, <http://www.au.af.mil/au/ssq/2012/spring/garretson.pdf>

As of 2010, the fundamental research to achieve technical feasibility for the SPS [solar-power satellites] was already accomplished. Whether it requires 5–10 years or 20–30 years to mature the technologies for economically viable SPS now depends more on the development of appropriate platform systems concepts and the availability of adequate budgets. —International Academy of Astronautics (IAA), 2011 The world needs a constant supply of uninterrupted electrical power to enable and sustain economic growth; power its cities, factories, and vehicles; and provide energy for heating, cooling, lighting, cooking, and desalination. Long term, it is desirable to transition from an energy system based on fossil fuels—an exhaustible resource which alters the composition of our atmosphere with unknown long-term effects on our climate— to a system based upon renewable sources. Many see solar power as the answer, because the resource is so vast and available. However, traditional solar power has limitations that make it less than a perfect match for our society. It is highly intermittent (only a 20-percent duty cycle) due to weather effects (clouds, rain, dust), and its low density requires vast tracks of land. Worst of all, it is not available at night, requiring vast storage or nonrenewable backup systems. Space-based solar is an innovation designed to retain[s] the advantages of traditional solar power while sidestepping the disadvantages. The basics of the idea are quite simple. Rather than cope with the unpredictability and intermittency of solar power on the ground, go where the sun always shines. In geostationary orbit (GEO), the sun shines constantly and is 36 percent stronger, allowing a solar array to collect almost 10 times the amount of energy as the same array installed at mid latitude on the ground (see fig.1). Power can then be transferred (beamed) directly to where it is needed. The technologies to do this are not magic or unfamiliar—they are the same elements used every day to emplace, power, and communicate with every existing satellite. Building the SBSP system would rely on the same familiar solar cells, radio transceivers, and rockets to propel them to GEO, only assembled on a grand different scale. In a mature system-of-systems, multiple solar-power satellites would reside in geostationary orbit, each collecting vast amounts of power and transmitting it through active electronic beam steering, like routers in a vast orbiting power internet. While appearing to hover above a particular location, each SPS could service multiple markets, providing power on demand to urban centers or remote locations. For example, a single satellite south of Baja California could service markets across most of North and South America; a satellite over the Indian Ocean could service markets as far apart as Africa and Indonesia, and from Diego Garcia to as far north as Russia. 1 Power in this system-of-systems would be transmitted using a technique called retrodirective phased array, where an encrypted pilot signal from the ground handshakes with the satellite’s active electronic beam-steering system to link transmitter and receiver. The beam itself would be in the ISM band (typically 2.45 or 5.8 GHz), so that it passes nearly full strength through the atmosphere, clouds, and rain. Because of low atmospheric losses (<2 percent), extremely efficient reconversion (>80 percent), and most of all, constant illumination, the beam can be safely kept at an amazingly low intensity (only one-sixth the intensity of sunlight) and yet be significantly more energy productive than a comparably sized terrestrial solar plant. The location and diameter of the beam are predictable and well confined. Unlike communications satellites—which, because of their small-aperture antennas, cast continent-sized footprints and must be separated by degrees (and thousands of miles) on orbit to deconflict signals—SPSs have very large apertures and therefore can send very narrow beams, allowing them to be spaced much closer together. The beam itself terminates on a receiver called a rectenna, with peak intensity in its center and tapering to nearly nothing at the periphery. The rectenna, about the size of a municipal airport, is a mesh of dipole antennas that capture all the incident energy from the beam. It is nevertheless 80 percent transparent to sunlight, allowing the land beneath to remain available for agricultural uses.

#### SPS is resilient, cost-effective, and efficient

Reed & Willenberg 4 – Head of the Welsom Space Consortium, and Harvey, PhD, Independent Review Team Leader for Space Power Research for NASA, Former Chief Scientist of the ISS (Kevin and Harvey, , "Early commercial demonstration of space solar power using ultra-lightweight arrays,” Acta Astronautica, Volume 65, Issues 9-10, accessed on Science Direct)

Future systems will be even more sensitive to specific power. A number of conceptual design architecture studies have been performed that offer promise for terrestrial electrical power generation by [SSP] space solar power, i.e. a constellation of large Earth-orbiting spacecraft that collect solar power, convert it to laser or microwave beams, and beam that power to terrestrial collectors that, in turn, convert that power to electricity.[1-3] To make this concept economically attractive, they must compete with current large power plants by economically generating Gigawatts (GW) of power. At 100 W/kg, such a power station must weigh 2-5 ∙ 107 kg or more – a tall order for launch vehicles that currently place no more than 2-3 ∙ 103 kg into geosynchronous orbit. Recent technology advances in the area of thin film photovoltaic arrays offer a solution to the mass limitations of high power arrays. Thin film arrays, while the efficiency is only around 9-12%, are so lightweight that they offer specific powers in excess of 1,000 W/kg - a factor of ten or more above the current state of the art. Since these arrays are deployable, they can be packaged with minimum mass and volume, and readily deployed in space with **near-term demonstrable technologies**. This section provides an introduction to this possibility. The next section will discuss the specific advantages of lightweight arrays. Section 3 will describe near-term applications in the 50-500 kWe power range, both in space and in the high altitude atmosphere, as well as future directions for space power satellites and high-power electric thrusters. Section 4 discusses recent and ongoing plans for prototype testing of thin-film arrays in civil and military applications as well as commercial "NewSpace" applications. In Section 5, we discuss some key process steps required for commercial development of space solar power and wireless power transmission, with specific focus on the development pathway for these solar arrays. A development Roadmap is described in Section 6. A short summary is presented in Section 7, followed by references. 2. ADVANTAGES OF ULTRALIGHTWEIGHT ARRAYS Since the beginning of Earth-orbiting satellites, solar array technology has gone through two or three generations, and is on the verge of a new generation. Most early satellites were powered with crystalline silicon arrays, with power levels generally below about 6 kilowatts (kWe). These silicon arrays were heavy and operated at low efficiency, i.e. the amount of power produced per unit area of solar array started around 10-12% at beginning of life. These crystalline silicon arrays also degraded rapidly, dropping to 8-10% efficiencies after several years in space, as a result of radiation-induced degradation of the photovoltaic silicon and atomic oxygen-induced discoloration of the cover glass which protects the silicon from these environmental factors. In the 1990s, the technology for many, if not most, satellite solar arrays converted from these original silicon arrays to compound semiconductors, which generally used gallium arsenide plus a second or third semiconductor to capture a greater share of the solar spectrum and convert it to electricity. These compound dual-junction and triple-junction semiconductors are much more resistant to radiation and more efficient, with efficiencies of 20-24%. More recently, the ability to separate different wavelengths of the solar spectrum and tailor the incident light onto a stretched lens of selected semiconductors (separating red, yellow, green, and blue wavelengths) has shown indications of efficiencies as high as 40-50%.[4-5] Yet even at this nearly theoretical limit of efficiency, the power density level will reach only 300 W/kg. Until recently, the focus of most solar array technology development has been toward more efficient, more radiation-resistant arrays. This focus has been driven primarily by the challenge of deployment of large arrays. This challenge has limited the total array area that can be launched into space, and therefore the way to higher power arrays has been higher efficiencies. These rigid, higher efficiency solar arrays come at the cost, however, of relatively high mass - with the best rigid arrays able to produce about 80-100 Watts per kilogram (W/kg) at 30% efficiency, and the stretched lens arrays promising about 150 W/kg but limited to a total of around 10 kW by deployment considerations. Two dominant performance metrics in the selection of solar array technologies are this power/mass ratio (i.e. the amount of power that can be produced for each kilogram of total mass) and the volume of the stowed array as it is launched. These are important because of the mass and volume limitations on the launch vehicle that places the array into space, and the high cost of launching this limited mass and volume. Using launch vehicles available today, these limit the total power available to satellites in geostationary orbit to about 18 kWe. Higher powers will be highly desirable as the user demands for communications services continue to increase. Recent advances in the ability to place photovoltaic materials on very thin film substrates have produced a new generation of solar arrays. These advances allow arrays to be stowed in the launch vehicle in very compact configurations, and easily deployed to much larger arrays than have heretofore been achievable. These new, thin film arrays are much lighter - around 1200 W/kg, including the deployment systems. Laboratory test cells have been produced by Institut de Microtechnique at the University of Neuchatel, Switzerland using LaRCTM-CP1 thin-film substrates produced by SRS Technologies in Huntsville, AL that have the highest power/mass ratio on record - 4300 W/kg![6] These thin film arrays can be stowed in a rolled or folded configuration in the launch vehicle and deployed in space by simple boom extension or roller mechanisms. A well-designed 50 kW space solar array and deployment system using rolled mechanisms with this specific power would weigh 32 kg with a payload volume the size of a suitcase. This low mass and payload volume, combined with high power density, can provide 50 kW+ space solar arrays at 25% of the cost of current rigid solar arrays. There are two approaches to thin film arrays: amorphous silicon (a-Si:H) and polycrystalline Cu(Ga,In)Se2 (CIGS). The Neuchatel partners have developed an array configuration that deposits amorphous silicon on SRS 6 µm-thick CP1TM polymer films, referred to as CP1/a-Si:H arrays. CIGS cells are generally deposited on 30 µm-thick metal foil substrates, a fact that assures that CIGS cells will be heavier than CP1/a-Si:H cells. Some basic comparisons between these solar arrays are summarized in Table 1. Using deployable thin-film arrays with specific powers in excess of 1,000 W/kg opens opportunities for large power levels in space. With current launch vehicles, this means that communications satellites can have 200 kWe or more in geosynchronous orbit, or that commercial platforms such as manufacturing sites or tourist destinations, can approach a MWe. With such possibilities, **this technology might drive the economics of [SSP] space solar power satellites into the profitable arena**, thereby contributing greatly to a non-petroleum-based worldwide electrical power grid. 3. APPLICATIONS Deployable thin-film arrays would have immediate applications with communications satellites and with high altitude aircraft. A 60 kWe array which can be rolled out in 20 kWe segments would greatly extend the useful lifetime of communications satellites – essentially tripling the array lifetime by rolling out 20 kWe of beginning-of-life (BOL) arrays at the end of the array's useful lifetime. An alternative application would be for much higher-power communications satellites, from 50 to 200 kWe, for higher data rates or power. A unique application may also be realized for recharging mobile batteries. Such an orbiting power platform may provide a source of electrical power for very distributed demands, such as for cellular phones and laptop computers. A 200 kWe solar array would have a mass of less than 200 kg. This would make a thin-film array attractive for still higher-power commercial applications, such as orbiting hotels – with expected demands in the 250 kWe to 1 MWe – and manufacturing sites. The latter would be either for sites for in-space construction of larger platforms, or for processing of materials in the microgravity environment of space. As the technology matures to the megawatt range, additional applications appear promising. For example, electric thrusters in the megawatt range would be attractive for human transportation to Mars and its moons. This technology can be developed in stages, perhaps using high altitude airships as platforms to demonstrate megawatt arrays. As the technology for high power thin film arrays matures, the logical next step would be solar power satellites. With a launch vehicle capable of placing 50,000 kg to geosynchronous orbit, 50 MWe platforms can be considered as building blocks for the GWe stations that would be required to provide a primary source of power for the electrical power grid. 4. DEVELOPMENT OF ULTRALIGHTWEIGHT ARRAYS Recent advances in the ability to place photovoltaic materials on very thin film substrates have produced a new generation of solar arrays. These advances allow arrays to be stowed in the launch vehicle in very compact configurations and easily deployed to much larger arrays than have heretofore been achievable. These new, thin film arrays are much lighter - around 1200 W/kg, including the deployment systems. Problematic to most thin-film solar arrays are radiation and atomic oxygen erosion. Test solar cells are made on CP1TM polyimide that is space-rated for 10 years in Geosynchronous Earth Orbit ( GEO), or SRS CORIN which is the only transparent uncoated commercial polyimide that will not erode in LEO. These flexible, 6 micron thick, thin film arrays, can be rolled or folded into a very low stowed volume in the launch vehicle configuration, and then deployed in space by simple boom extension or roller mechanisms. Such a typical 50 kW space solar array and deployment system would weigh 32 kg with a payload volume the size of a suitcase. This low mass and payload volume, combined with high power density, can provide 50 kW+ space solar arrays at 25% of the cost of current rigid solar arrays. The key technologies are ultra-thin, deployable arrays that generate power at acceptable efficiencies with high power density, and are resistant to atomic oxygen and radiation in the operational space environment.

# 2AC

## Heg

#### Economic power not key to hegemony

Kapila 10 [Dr. Subhash Kapila is an International Relations and Strategic Affairs analyst and the Consultant for Strategic Affairs with South Asia Analysis Group and a graduate of the Royal British Army Staff College with a Masters in Defence Science and a PhD in Strategic Studies., “21st Century: Strategically A Second American Century With Caveats,” June 26, http://www.eurasiareview.com/201006263919/21st-century-strategically-a-second-american-century-with-caveats.html]

Strategically, the 20th Century was decidedly an American Century. United States strategic, military, political and economic predominance was global and undisputed. In the bi-polar global power structure comprising the United States and the Former Soviet Union it was the United States which globally prevailed. The 20th Century's dawn was marked by the First World War which marked the decline of the old European colonial powers, noticeably Great Britain. The Second World War marked the total eclipse of Great Britain and other colonial powers. The United States replaced Great Britain as the new global superpower. The 20th Century's end witnessed the end of the Cold War, with the disintegration of the Former Soviet Union as the United States strategic challenger and counter-vailing power. On the verge of the new millennium the United States strode the globe like a colossus as the sole global super power. With a decade of the 21st Century having gone past, many strategic and political analysts the world over have toyed with projections that United States global predominance is on the decline, and that the 21st Century will not be a second American Century. Having toyed, with such projections, these analysts however shy away from predicting whose century the 21st Century will strategically be? The trouble with such projections is that they are based predominantly on analyses of economic trends and financial strengths and less on detailed analyses of strategic and military strengths, and more significantly strategic cultures. Presumably, it is easier for such analysts to base trends on much quoted statistical data. Strategic analysis of global predominance trends is a more complex task in the opinion of the Author, as it cannot be based on statistical data analysis. Global predominance trends need unravelling of strategic cultures of contending powers, the reading of national intentions and resolve and the inherent national strengths and willpower demonstrated over a considerable time span of half-centuries and centuries. Crisply put, one needs to remember that in the 1980's, Japan and Germany as "economic superpowers" could not emerge as global superpowers. Hence global predominance calls for more than economic strengths. The United States getting strategically bogged down in Iraq and Afghanistan in the first decade of the 21st Century has not led to any noticeable decline in American global predominance. Despite Iraq and Afghanistan, the United States reigns supreme globally even in East Asia where China could have logically challenged it. More significantly, and normally forgotten, is the fact that the off-quoted shift of global and economic power from the West to East was facilitated by United States massive financial direct investments in China, Japan, South Korea and India. China quoted as the next superpower to rival the United States would be economically prostate, should the United States surgically disconnect China's economic and financial linkages to the United States. More significantly, while examining the prospects of the 21st Century as a "Second American Century" it must be remembered that besides other factors, that out of the six multipolar contenders for global power, none except China have shown any indications to whittle down US global predominance. Even China seems to be comfortable with US power as long as it keeps Japan in check. This Paper makes bold to assert that the 21st Century would be a Second American Century despite China's challenge and the strategic distractions arising from the global Islamic flash-points.

## Spending DA

#### US economy resilient

Coy 9—Economics editor for BusinessWeek. BA in history from Cornell (Peter, Why It's Smart To Be Optimistic, 13 August 2009, http://www.businessweek.com/magazine/content/09\_34/b4144040812940.htm?chan=magazine+channel\_special+report)

The optimistic scenario is that the recession is correcting the excesses of the euphoric bubble years, when the global economy was on an unsustainable path. Americans were overspending on big houses and cars, and the nation was paying for an unaffordable lifestyle by issuing IOUs to trading partners such as the Chinese. That had to change—and now it has. Leave it to an adman to put a nice gloss on the idea: "I think we're ushering in a new era of doing better with less," says Roy M. Spence Jr., chairman and CEO of Austin (Tex.) advertising agency GSD&M Idea City. Shortly before he died on June 5 at age 90, economic consultant Peter L. Bernstein wrote an article for the July/August issue of *Harvard Business Review* in which he argued that getting whacked on the nose was good capitalism. People are no longer taking crazy, overleveraged risks, so they're less vulnerable to blowing up again, Bernstein said. "For these reasons," he wrote, "instability leads inevitably to stability." Optimists see the recession as a forest fire that clears out dead brush, making room for new growth. "I think crisis plays a wonderful role in capitalism. It's exactly what allows you to grow faster over time relative to other economic systems that don't allow the dips," says James W. Paulsen, chief investment strategist for Wells Capital Management in San Francisco. When the crisis struck last year, he says, "we totally paralyzed our healthy homes and households into inactivity. If they're still in O.K. shape, then this thing could turn around quicker and start growing better than people imagine." Even the drying up of capital for new enterprises in this recession, while generally negative, has a positive aspect. It forces entrepreneurs to be more efficient and lets them keep more of their companies' equity, says John Dietz, co-founder of startup Adometry, which measures the effectiveness of Internet advertising. Bravely, he and co-founder Robert Perrier announced last September, at the height of the financial crisis, that they were leaving well-paid jobs at Walt Disney Internet Group (DIS) to launch Adometry. As stocks plunged 25% in the following weeks, says Dietz, "There were times when we thought about saying, 'You know, we were just kidding about leaving.' " Instead, they stuck it out. Now Adometry is just about ready for prime time. Adometry illustrates the ongoing benefits of technological progress. Dietz and Perrier found they were able to develop their data-intensive ad monitoring technology cheaply by harnessing the power of something from Amazon.com (AMZN) called the Amazon Elastic Compute Cloud—essentially, high-powered computing available as a service on the Web rather than as a bunch of expensive boxes. Says Dietz: "A lot of the stuff we're doing now would have been impossible even five years ago."

#### Econ low---weak December jobs report

Gordon 1/4 John Steele, "The Jobs Report", 2013, www.commentarymagazine.com/2013/01/04/the-jobs-report-5/

It’s another dreary jobs report out this morning from the Bureau of Labor Statistics, detailing yet another month of the apparently endless “Obama Recovery,” the worst since the Great Depression lingered on and on in the 1930s.¶ Employment rose by 155,000 and the unemployment rate stayed the same at 7.8 percent (the November unemployment rate, originally reported at 7.7 percent, was revised upwards a notch in this report). It’s not surprising that it stayed the same, as the civilian workforce rose by 192,000 last month. In other words, job growth is barely keeping pace with population growth. And part of the job growth is probably due to Hurricane Sandy, as 30,000 construction jobs were added in December, not ordinarily a good month for construction jobs.¶ Unemployment for blacks (14.0 percent) and teenagers (23.5 percent) remained dismal, as did unemployment for those aged 18-29 at 11.5 percent. Long-term unemployment is stuck at 4.8 million, or 39.1 percent of all unemployed, and 7.9 million are working part-time although they would rather work full-time. The number of employed people as a percentage of the total population remains at 58.6, the same as it was a year ago. That is not exactly a sign of a recovery that is gathering steam.¶ Why is the dismal Obama recovery so much like the dismal Roosevelt recovery of the 1930s? Could it be because both presidents pursued the same policies—high taxes on high-income earners, greatly increased regulation on business, government “investment,” and redistribution of wealth? Yep, it could be.

## Role of the Ballot

#### Role of the ballot is political engagement---in the context of energy it empirically inculcates portable skills that lead to better energy policy – it gives voice to buried arguments and challenges bias and institutional affiliations

Mitchell 10 (Gordon R, Associate Professor and Director of Graduate Studies in the Department of Communication at the University of Pittsburgh, where he also directs the William Pitt Debating Union, “SWITCH-SIDE DEBATING MEETS DEMAND-DRIVEN RHETORIC OF SCIENCE”, <http://www.pitt.edu/~gordonm/JPubs/Mitchell2010.pdf>)

An additional dimension of nuance emerging from this avenue of analysis pertains to the precise nature of the deliberative goals set by bridge. Program descriptions notably eschew Kettering-style references to democratic citizen empowerment, yet feature deliberation prominently as a key ingredient of strong intelligence tradecraft. This caveat is especially salient to consider when it comes to the second category of rhetorically informed critical work invited by the contingent aspect of specific debate initiatives. To grasp this layer it is useful to appreciate how the name of the bridge project constitutes an invitation for those outside the intelligence community to participate in the analytic outreach effort. According to Doney, bridge “provides an environment for Analytic Outreach—a place where IC analysts can reach out to expertise elsewhere in federal, state, and local government, in academia, and industry. New communities of interest can form quickly in bridge through the ‘web of trust’ access control model—access to minds outside the intelligence community creates an analytic force multiplier.”48 This presents a moment of choice for academic scholars in a position to respond to Doney’s invitation; it is an opportunity to convert scholarly expertise into an “analytic force multiplier.”¶ In reflexively pondering this invitation, it may be valuable for scholars to read Greene and Hicks’s proposition that switch-side debating should be viewed as a cultural technology in light of Langdon Winner’s maxim that “technological artifacts have politics.”49 In the case of bridge, politics are informed by the history of intelligence community policies and practices. Commenter Thomas Lord puts this point in high relief in a post offered in response to a news story on the topic: “[W]hy should this thing (‘bridge’) be? . . . [The intelligence community] on the one hand sometimes provides useful information to the military or to the civilian branches and on the other hand it is a dangerous, out of control, relic that by all external appearances is not the slightest bit reformed, other than superficially, from such excesses as became exposed in the cointelpro and mkultra hearings of the 1970s.”50 A debate scholar need not agree with Lord’s full-throated criticism of the intelligence community (he goes on to observe that it bears an alarming resemblance to organized crime) to understand that participation in the community’s Analytic Outreach program may serve the ends of deliberation, but not necessarily democracy, or even a defensible politics. Demand-driven rhetoric of science necessarily raises questions about what’s driving the demand, questions that scholars with relevant expertise would do well to ponder carefully before embracing invitations to contribute their argumentative expertise to deliberative projects. By the same token, it would be prudent to bear in mind that the technological determinism about switch-side debate endorsed by Greene and Hicks may tend to flatten reflexive assessments regarding the wisdom of supporting a given debate initiative—as the next section illustrates, manifest differences among initiatives warrant context-sensitive judgments regarding the normative political dimensions featured in each case.¶ Public Debates in the EPA Policy Process¶ The preceding analysis of U.S. intelligence community debating initiatives highlighted how analysts are challenged to navigate discursively the heteroglossia of vast amounts of different kinds of data flowing through intelligence streams. Public policy planners are tested in like manner when they attempt to stitch together institutional arguments from various and sundry inputs ranging from expert testimony, to historical precedent, to public comment. Just as intelligence managers find that algorithmic, formal methods of analysis often don’t work when it comes to the task of interpreting and synthesizing copious amounts of disparate data, public-policy planners encounter similar challenges.¶ In fact, the argumentative turn in public-policy planning elaborates an approach to public-policy analysis that foregrounds deliberative interchange and critical thinking as alternatives to “decisionism,” the formulaic application of “objective” decision algorithms to the public policy process. Stating the matter plainly, Majone suggests, “whether in written or oral form, argument is central in all stages of the policy process.” Accordingly, he notes, “we miss a great deal if we try to understand policy-making solely in terms of power, influence, and bargaining, to the exclusion of debate and argument.”51 One can see similar rationales driving Goodwin and Davis’s EPA debating project, where debaters are invited to conduct on-site public debates covering resolutions crafted to reflect key points of stasis in the EPA decision-making process. For example, in the 2008 Water Wars debates held at EPA headquarters in Washington, D.C., resolutions were crafted to focus attention on the topic of water pollution, with one resolution focusing on downstream states’ authority to control upstream states’ discharges and sources of pollutants, and a second resolution exploring the policy merits of bottled water and toilet paper taxes as revenue sources to fund water infrastructure projects. In the first debate on interstate river pollution, the team of Seth Gannon and Seungwon Chung from Wake Forest University argued in favor of downstream state control, with the Michigan State University team of Carly Wunderlich and Garrett Abelkop providing opposition. In the second debate on taxation policy, Kevin Kallmyer and Matthew Struth from University of Mary Washington defended taxes on bottled water and toilet paper, while their opponents from Howard University, Dominique Scott and Jarred McKee, argued against this proposal. Reflecting on the project, Goodwin noted how the intercollegiate debaters’ ability to act as “honest brokers” in the policy arguments contributed positively to internal EPA deliberation on both issues.52 Davis observed that since the invited debaters “didn’t have a dog in the fight,” they were able to give voice to previously buried arguments that some EPA subject matter experts felt reticent to elucidate because of their institutional affiliations.53¶ Such findings are consistent with the views of policy analysts advocating the argumentative turn in policy planning. As Majone claims, “Dialectical confrontation between generalists and experts often succeeds in bringing out unstated assumptions, conflicting interpretations of the facts, and the risks posed by new projects.”54 Frank Fischer goes even further in this context, explicitly appropriating rhetorical scholar Charles Willard’s concept of argumentative “epistemics” to flesh out his vision for policy studies: Uncovering the epistemic dynamics of public controversies would allow for a more enlightened understanding of what is at stake in a particular dispute, making possible a sophisticated evaluation of the various viewpoints and merits of different policy options. In so doing, the differing, often tacitly held contextual perspectives and values could be juxtaposed; the viewpoints and demands of experts, special interest groups, and the wider public could be directly compared; and the dynamics among the participants could be scrutizined. This would by no means sideline or even exclude scientific assessment; it would only situate it within the framework of a more comprehensive evaluation.55¶ As Davis notes, institutional constraints present within the EPA communicative milieu can complicate efforts to provide a full airing of all relevant arguments pertaining to a given regulatory issue. Thus, intercollegiate debaters can play key roles in retrieving and amplifying positions that might otherwise remain sedimented in the policy process. The dynamics entailed in this symbiotic relationship are underscored by deliberative planner John Forester, who observes, “If planners and public administrators are to make democratic political debate and argument possible, they will need strategically located allies to avoid being fully thwarted by the characteristic self-protecting behaviors of the planning organizations and bureaucracies within which they work.”56 Here, an institution’s need for “strategically located allies” to support deliberative practice constitutes the demand for rhetorically informed expertise, setting up what can be considered a demand-driven rhetoric of science. As an instance of rhetoric of science scholarship, this type of “switch-side public debate”57 differs both from insular contest tournament debating, where the main focus is on the pedagogical benefit for student participants, and first-generation rhetoric of science scholarship, where critics concentrated on unmasking the rhetoricity of scientific artifacts circulating in what many perceived to be purely technical spheres of knowledge production.58 As a form of demand-driven rhetoric of science, switch-side debating connects directly with the communication field’s performative tradition of argumentative engagement in public controversy—a different route of theoretical grounding than rhetorical criticism’s tendency to locate its foundations in the English field’s tradition of literary criticism and textual analysis.59¶ Given this genealogy, it is not surprising to learn how Davis’s response to the EPA’s institutional need for rhetorical expertise took the form of a public debate proposal, shaped by Davis’s dual background as a practitioner and historian of intercollegiate debate. Davis competed as an undergraduate policy debater for Howard University in the 1970s, and then went on to enjoy substantial success as coach of the Howard team in the new millennium. In an essay reviewing the broad sweep of debating history, Davis notes, “Academic debate began at least 2,400 years ago when the scholar Protagoras of Abdera (481–411 bc), known as the father of debate, conducted debates among his students in Athens.”60 As John Poulakos points out, “older” Sophists such as Protagoras taught Greek students the value of dissoi logoi, or pulling apart complex questions by debating two sides of an issue.61 The few surviving fragments of Protagoras’s work suggest that his notion of dissoi logoi stood for the principle that “two accounts [logoi] are present about every ‘thing,’ opposed to each other,” and further, that humans could “measure” the relative soundness of knowledge claims by engaging in give-and-take where parties would make the “weaker argument stronger” to activate the generative aspect of rhetorical practice, a key element of the Sophistical tradition.62¶ Following in Protagoras’s wake, Isocrates would complement this centrifugal push with the pull of synerchésthé, a centripetal exercise of “coming together” deliberatively to listen, respond, and form common social bonds.63 Isocrates incorporated Protagorean dissoi logoi into synerchésthé, a broader concept that he used flexibly to express interlocking senses of (1) inquiry, as in groups convening to search for answers to common questions through discussion;64 (2) deliberation, with interlocutors gathering in a political setting to deliberate about proposed courses of action;65 and (3) alliance formation, a form of collective action typical at festivals,66 or in the exchange of pledges that deepen social ties.67¶ Returning once again to the Kettering-informed sharp distinction between debate and deliberation, one sees in Isocratic synerchésthé, as well as in the EPA debating initiative, a fusion of debate with deliberative functions. Echoing a theme raised in this essay’s earlier discussion of intelligence tradecraft , such a fusion troubles categorical attempts to classify debate and deliberation as fundamentally opposed activities. The significance of such a finding is amplified by the frequency of attempts in the deliberative democracy literature to insist on the theoretical bifurcation of debate and deliberation as an article of theoretical faith.¶ Tandem analysis of the EPA and intelligence community debating initiatives also brings to light dimensions of contrast at the third level of Isocratic synerchésthé, alliance formation. The intelligence community’s Analytic Outreach initiative invites largely one-way communication flowing from outside experts into the black box of classified intelligence analysis. On the contrary, the EPA debating program gestures toward a more expansive project of deliberative alliance building. In this vein, Howard University’s participation in the 2008 EPA Water Wars debates can be seen as the harbinger of a trend by historically black colleges and universities (hbcus) to catalyze their debate programs in a strategy that evinces Davis’s dual-focus vision. On the one hand, Davis aims to recuperate Wiley College’s tradition of competitive excellence in intercollegiate debate, depicted so powerfully in the feature film The Great Debaters, by starting a wave of new debate programs housed in hbcus across the nation.68 On the other hand, Davis sees potential for these new programs to complement their competitive debate programming with participation in the EPA’s public debating initiative.¶ This dual-focus vision recalls Douglas Ehninger’s and Wayne Brockriede’s vision of “total” debate programs that blend switch-side intercollegiate tournament debating with forms of public debate designed to contribute to wider communities beyond the tournament setting.69 Whereas the political telos animating Davis’s dual-focus vision certainly embraces background assumptions that Greene and Hicks would find disconcerting—notions of liberal political agency, the idea of debate using “words as weapons”70—there is little doubt that the project of pursuing environmental protection by tapping the creative energy of hbcu-leveraged dissoi logoi diff ers significantly from the intelligence community’s effort to improve its tradecraft through online digital debate programming. Such difference is especially evident in light of the EPA’s commitment to extend debates to public realms, with the attendant possible benefits unpacked by Jane Munksgaard and Damien Pfister:¶ Having a public debater argue against their convictions, or confess their indecision on a subject and subsequent embrace of argument as a way to seek clarity, could shake up the prevailing view of debate as a war of words. Public uptake of the possibility of switch-sides debate may help lessen the polarization of issues inherent in prevailing debate formats because students are no longer seen as wedded to their arguments. This could transform public debate from a tussle between advocates, with each public debater trying to convince the audience in a Manichean struggle about the truth of their side, to a more inviting exchange focused on the content of the other’s argumentation and the process of deliberative exchange.71¶ Reflection on the EPA debating initiative reveals a striking convergence among (1) the expressed need for dissoi logoi by government agency officials wrestling with the challenges of inverted rhetorical situations, (2) theoretical claims by scholars regarding the centrality of argumentation in the public policy process, and (3) the practical wherewithal of intercollegiate debaters to tailor public switch-side debating performances in specific ways requested by agency collaborators. These points of convergence both underscore previously articulated theoretical assertions regarding the relationship of debate to deliberation, as well as deepen understanding of the political role of deliberation in institutional decision making. But they also suggest how decisions by rhetorical scholars about whether to contribute switch-side debating acumen to meet demand-driven rhetoric of science initiatives ought to involve careful reflection. Such an approach mirrors the way policy planning in the “argumentative turn” is designed to respond to the weaknesses of formal, decisionistic paradigms of policy planning with situated, contingent judgments informed by reflective deliberation.

#### Political engagement in space policy is key to becoming an effective space advocate

Livingston 2 – Dr. David M. Livinston, Professor at the University of North Dakota School of Space Studies, and founder of The Space Show, Aug 2002, “The Prospects for Space Commerce in the Aftermath of 9-11” Paper to the Mars Society, <http://www.spacefuture.com/archive/the_prospects_for_space_commerce_in_the_aftermath_of_9_11.shtml>

A second recommendation is to realize that **political activity on the part of** space advocates and commercial space promoters is important. Our nation thrives on political activity and effectively communicating with our elected representatives and policy makers is an important part of our political, social, and economic way of life. Even if the immediate response is tepid, we must push forward with our goals and our focus in the political arena. By doing so **we can accomplish much over a shorter time frame than if we did not advocate in the political arena.** The key is to make sure that our efforts are productive and that we understand how specific barriers in the form of policies, regulations, and laws actually interfere with space business opportunities, **and how these can be changed**. Many of the existing space advocate organizations have very effective political action components in their organizations so learning how to do this does not mean reinventing the wheel.

## Sustainability

#### The plan is natural capitalism - it's sustainable

Hawken et al 10 (Paul, environmentalist, entrepreneur, and author, Amory B. Lovins, Co-founder, Chairman, and Chief Scientist of Rocky Mountain Institute, and L. Hunter Lovins, founder of Natural Capitalism, Inc. and Natural Capitalism Solutions and co-founder of the Rocky Mountain Institute and a professor at the Presidio School of Management's MBA in Sustainable Management program, “Natural Capitalism: The Next Industrial Revolution”, Google Books, p. 259-262)

CHURCHILL ONCE REMARKED THAT DEMOCRACY IS THE WORST SYSTEM OF government — except for all the rest. The same might be said of the market economy. Markets are extremely good at what they do, harnessing such potent motives as greed and envy — indeed, Lewis Mum ford said, all the Seven Deadly Sins except sloth. Markets are so successful that they are often the vehicle for runaway, indiscriminate growth, including the growth that degrades natural capital.¶ A common response to the misuse, abuse, or misdirection of market forces is to call for a retreat from capitalism and a return to heavy-handed regulation. But in addressing these problems, natural capitalism does not aim to discard market economics, nor reject its valid and important principles or its powerful mechanisms. It does suggest that we should vigorously employ markets for their proper purpose as a tool for solving the problems we face, while better understanding markets' boundaries and limitations.¶ Democracies require ceaseless political vigilance and informed citizenship to prevent them from being subverted or distorted by those who wish to turn them to other ends. Markets, too, demand a comparable degree of responsible citizenship to keep them functioning properly despite those who would benefit more from having them work improperly. But the success of markets when they do work well is worth the effort. Their ingenuity, their rapid feedback, and their diverse, dispersed, resourceful, highly motivated agents give markets unrivaled effectiveness. Many of the excesses of markets can be compensated for by steering their immense forces in more creative and constructive directions. What is required is diligence to under-stand when and where markets are dysfunctional or misapplied, and to choose the correct targeted actions to help them to operate better while retaining their vigor and vitality.¶ This book has often argued that most of the earth’s capital, which makes life and economic activity possible, has not been accounted for by conventional economics. The goal of natural capitalism is to extend the sound principles of the market to all sources of material value, not just to those that by accidents of history were first appropriated into the market system. It also seeks to guarantee that all forms of capital are as prudently stewarded as money is by the trustees of financial capital.¶ The notion that much of the remedy for unsustainable market activities is the adoption of sustainable market activities may offend both those who deny that markets can be unsustainable and those who deny that markets and profits can be moral. Yet worldwide experience confirms an abundance of market-based tools whose outcomes can be environmentally, economically, and ethically superior. These tools include institutional innovations that can create new markets in avoided resource depletion and abated pollution, maximize competition in saving resources, and convert the cost of a sulfur tax or a carbon-trading price into profits realized from the sale and use of efficient technologies.

#### Capitalism is sustainable – self-correcting

Seabra 12 (Leo, has a background in Communication and Broadcasting and a broad experience which includes activities in Marketing, Advertising, Sales and Public Relations, 2/27, “Capitalism can drive Sustainability and also innovation,” http://seabraaffairs.wordpress.com/2012/02/27/capitalism-can-drive-sustainability-and-also-innovation/)

There are those who say that if the world does not change their habits, even the end of economic growth, and assuming alternative ways of living, will be a catastrophe. “Our lifestyles are unsustainable. Our expectations of consumption are predatory.Either we change this, or will be chaos”. Others say that the pursuit of unbridled economic growth and the inclusion of more people in consumption is killing the Earth. We have to create alternative because economic growth is pointing to the global collapse. “What will happen when billions of Chinese decide to adopt the lifestyle of Americans?” I’ll disagree if you don’t mind… **They might be** wrong. Completely wrong .. Even very intelligent people wrongly interpret the implications of what they observe when they lose the perspective of time. In the vast scale of time (today, decades, not centuries) it is the opposite of what expected, because they start from a false assumption: the future is the extrapolation of this. But not necessarily be. How do I know? Looking at history. What story? The history of innovation, this thing generates increases in productivity, wealth, quality of life in an unimaginable level. It is innovation that will defeat pessimism as it always did. It was innovation that made life today is incomparably better than at any other time in human history. And will further improve. Einstein, who was not a stupid person, believed that capitalism would generate crisis, instability, and growing impoverishment. He said: “The economic anarchy of capitalist society as it exists today is, in my opinion, the true source of evil.” The only way to eliminate this evil, he thought, was to establish socialism, with the means of production are owned by the company. A centrally controlled economy would adjust the production of goods and services the needs of people, and would distribute the work that needed to be done among those in a position to do so. This would guarantee a livelihood to every man, women and children. Each according to his possibilities. To each according to their needs. And guess what? What happened was the opposite of what Einstein predicted. Who tried the model he suggested, impoverished, screwed up. Peter Drucker says that almost of all thinking people of the late nineteenth century thought that Marx was right: there would be increased exploitation of workers by employers. They would become poorer, until one day, the thing would explode. Capitalist society was considered inherently unsustainable. It is more or less the same chat today. **Bullshit. Capitalism, with all appropriate regulations, self-**corrects. It is **an adaptive system that learns and changes by design. The design is just for the system to learn and change.** There was the opposite of what Einstein predicted, and held the opposite of what many predict, but the logic that “unlike” only becomes evident over time. It wasn’t obvious that the workers are those whom would profit from the productivity gains that the management science has begun to generate by organizing innovations like the railroad, the telegraph, the telephone .. to increase the scale of production and cheapen things. The living conditions of workers today are infinitely better than they were in 1900. They got richer, not poorer .. You do not need to work harder to produce more (as everyone thought), you can work less and produce more through a mechanism that is only now becoming apparent, and that brilliant people like Caetano Veloso still ignores. The output is pursuing growth through innovation, growth is not giving up. More of the same will become unsustainable to the planet, but most of it is not what will happen, will happen more different, than we do not know what is right. More innovative. Experts, such as Lester Brown, insist on statements like this: if the Chinese also want to have three cars for every four inhabitants, as in the U.S. today, there will be 1.1 billion cars there in 2030, and there is no way to build roads unless ends with the whole area used for agriculture. You will need 98 million barrels of oil per day, but the world only produces about 90 million today, and probably never produce much more. The mistake is to extrapolate today’s solutions for the future. We can continue living here for 20 years by exploiting the same resources that we explore today? Of course not. But the other question is: how can we encourage the stream of innovations that will enable the Chinese, Indians, Brazilians, Africans .. to live so as prosperous as Americans live today? Hey, wake up … what can not stop the engine of innovation is that the free market engenders. This system is self correcting, that is its beauty. We do not need to do nothing but ensure the conditions for it to work without distortion. The rest he does himself. It regulates itself.

## Inevitable

#### It’s inevitable

Wood 2 (Ellen M., Ph.D in political science from UCLA, The Origin of Capitalism, pg. 4-6)

These question-begging explanations have their origina in classical political economy and Enlightenment conceptions of progress. Together, they give an account of historical development in which the mergence and growth to maturity of capitalism are already prefigured in the earliest manifestations of human rationality, in the technological advances that began when Homo Sapiens first wielded a tool, and in the acts of exchange human beings have practised since time immemorial. History’s journey to that final destination, to ‘commercial society’ or capitalism, has, to be sure, been long and arduous, and many obstacles hace stood in its way. But its progress has nonetheless been natural and inevitable. Nothing more is required, then, to explain the ‘rise of capitalism’ than an account of how many obstacles to its forward movement have been lifted- sometimes gradually, sometimes suddenly, with revolutionary violence. In more accounts of capitalism and its origin, there really *is* no origin. Capitalism seems always to be there, somewhere; and it only needs to be released from its chains- for instance, from the fetters of feudalism- to be allowed to grow and mature. Typically, these fetters are political: the parasitic powers of lordship, or the restrictions of an autocratic state. Sometimes they are cultural or ideological: perhaps the wrong religion. These contraints confine the free movement of ‘economic’ actors, the free expression of econmic rationality. The ‘economic’ in these formulations is identified with exchange or markets; and it is here that we can detect the assumption that the seeds of capitalism are contained in the most primitive acts of exchange, in any form of trade or market activity. That assumption is typically connected With the other presupposition: that history has been an almost natural process of technological development. One way or another, capitalism more or less naturally appears when and where expanding markets and technological development reach the right level, allowing sufficient wealth to be accumulated so that is can be profitably reinvested. Many Marxist explanations are fundamentally the same- with the addition of bourgeois revolutions to help break the fetters. The effect of these explanation is to stress the continuity between non-capitalist and capitalist societies, and to deny the disguise of the specificity of capitalism. Exchange has existed more or less forever, and it seems that the capitalist market is just more of the same. In this kind of argument, because capitalism’s specific and unique need constantly to revolutionize the forces of production is just an extension and an acceleration of universal and transhistorical, almost natural, tendencies, industrialization is the inevitable outcome of humanity’s most basic inclinations. So the lineage of capitalism passes naturally from the earliest Babylonian merchant through the medieval burgher to the early modern bourgeois and finally to the industrial capitalist. There is similar logic in certain Marxist versions of this story, even though the narrative in more recent version often shifts from the town to the countryside, and merchants are replaced by rural commodity producers, small or ‘middling’ farmers waiting for the opportunity to blossom into full-blown capitalists. In this kind of narrative, petty commodity production, released from the bonds of feudalism, grows more or less naturally into capitalism, and petty commodity producers, just given the chance, will take the capitalist road. Central to these conventional accounts of history are certain assumptions, explicit or implicit, about human nature and about how human beings will behave, if only given the chance. They will, so the story goes, always avail themselves of the opportunity to maximize profits through acts of exchange, and in order to realize that natural inclination, they will always find ways of improving the organization and instruments of work in order to enhance the productivity of labor.

## Root Cause

#### No root cause

Larrivee 10— PF ECONOMICS AT MOUNT ST MARY’S UNIVERSITY – MASTERS FROM THE HARVARD KENNEDY SCHOOL AND PHD IN ECONOMICS FROM WISCONSIN, 10 [JOHN, A FRAMEWORK FOR THE MORAL ANALYSIS OF MARKETS, 10/1, <http://www.teacheconomicfreedom.org/files/larrivee-paper-1.pdf>]

 The Second Focal Point: Moral, Social, and Cultural Issues of Capitalism Logical errors abound in critical commentary on capitalism. Some critics observe a problem and conclude: “I see X in our society. We have a capitalist economy. Therefore capitalism causes X.” They draw their conclusion by looking at a phenomenon as it appears only in one system. Others merely follow a host of popular theories according to which capitalism is particularly bad. 6 The solution to such flawed reasoning is to be comprehensive, to look at the good and bad, in market and non-market systems. Thus the following section considers a number of issues—greed, selfishness and human relationships, honesty and truth, alienation and work satisfaction, moral decay, and religious participation—that have often been associated with capitalism, but have also been problematic in other systems and usually in more extreme form. I conclude with some evidence for the view that markets foster (at least some) virtues rather than undermining them. My purpose is not to smear communism or to make the simplistic argument that “capitalism isn’t so bad because other systems have problems too.” The critical point is that certain people thought various social ills resulted from capitalism, and on this basis they took action to establish alternative economic systems to solve the problems they had identified. That they failed to solve the problems, and in fact exacerbated them while also creating new problems, implies that capitalism itself wasn’t the cause of the problems in the first place, at least not to the degree theorized.

## Epistemology

#### Action with policy relevance is key when survival is at stake---epistemology is irrelevant

Norton 5 (Bryan G, professor of philosophy at the Georgia Institute of Technology, “Sustainability: A Philosophy of Adaptive Ecosystem Management”, University of Chicago Press, November 1, 2005, pp. 151-154)

Pragmatists pay attention to the particularities of unique situations. In action-forcing situations, it is often possible to provide helpful, if context- sensitive, guidance to decide what to accept as certain enough to guide action and what is not so certain and therefore requires further study. These decisions, which occur within a value-laden context, allow us to use agreements about values—however limited and situation-specific—to accept certain goals as consensus goals. Then we can pursue observations and management experiments to reduce debilitating uncertainty regarding techniques to achieve those goals. Shared values and goals can, in this way, sometimes serve as the solid ground on which to stand to undertake experimentation with means to achieve the goals, thereby reducing uncertainty about system functioning. At other times, of course, beliefs about the system and its behavior seem undeniable, and we can stand on these planks to deliberate about realistic and wise goals. The epistemology of adaptive management thus provides for gradual progress and improvement of both our belief system and our preferences and values, by using experience to triangulate between temporarily accepted beliefs and values. The most controversial aspect of this knowledge- seeking strategy, perhaps, is the idea that in concrete situations shared values can sometimes serve as a solid basis upon which to pursue mission-oriented science to reduce uncertainty about outcomes of our choices. To explore this idea, it is essential that we understand environmental values in such a way that through successive applications of our method, values can be improved over time. In this and the remaining chapters in part 2,1 provide such a context-sensitive approach that can serve to bootstrap both our values and our factual understanding of management situations simultaneously.¶ Likening our epistemological problem to a ride on Neuraths boat, which is required to stay afloat indefinitely while repairs are made, we can understand our problem as one of deciding which of our beliefs to accept as strong enough and which should be submitted to immediate and critical review and testing. Sailors on the boat are motivated by their desire to survive, and so they undertake the repairs on the boat with great deliberation and care. They must not only make important technical judgments regarding which planks are becoming weak with age and rot, but they must also make judicious choices regarding which planks must, given the importance of their function, be given priority. Analogously, as adaptive managers, we are driven by the desire to stay afloat and to prosper as a community, and we must similarly decide carefully what beliefs to accept as given, which should be doubted, and which points of uncertainty are of highest priority, given the shared goals of the community. Like Neuraths sailors, we must make such epistemological judgments under pressure; if we guess wrong and stand on a weak board to fix a stronger one, we face danger, if we stand on a strong board and fix a weak one, we could still face danger if, for example, we choose to fix weak boards of no direct importance to the seaworthiness of the vessel and ignore others that might fail catastrophically. We must, like Justice Holmes's judge, act in a way that fulfills several social demands, including the demand that the present decision be both consistent with precedent and legal tradition and also responsive to the new demands of a new situation.¶ The particular context of a real management dilemma—a context always suffused with value—can be very important for pragmatists in determining which beliefs should be accepted, however provisionally, and which should be submitted to more intense scrutiny by observation and experiment. The necessity of acting—and refraining from action is itself an action—enforces a kind of discipline, a discipline felt in a particular situation with real values at stake. In some situations, for example when the very existence of the community is threatened, decisions can be seen against a backdrop of unquestioned values (community survival); in these situations consensus on values may be far stronger than consensus on science. Epistemological decisions, in situations where decisions are forced and important values are at stake, thus involve judgments of importance as well as truth. We can only examine our whole belief system and try to find some beliefs we can temporarily place beyond doubt. Given the goal of management, we first concentrate on beliefs that are most important to the ongoing voyage, postponing examination of others until later: we keep our ship afloat, gradually transforming it plank by plank. Similarly, adaptive managers sometimes, by hypothesis, help themselves to a platform of beliefs in order to question the goals that should be pursued; and at other times we assume our goals are worthy ones and proceed to test appropriate scientific hypotheses related to the attainment of those goals. Optimistically, the adaptive manager believes that this platform, which shifts over time and in the process of many trials, yields improved understanding and improved goals through an alternation between action and reflection. This may be the only effective way to respond to wicked problems as they arise in a community with diverse and sometimes competing values.¶ Of course one might object that this whole process is circular and that no "true" justification of goals or actions takes place. We assume facts to support values, and we then stand on the values to support the importance of scientific research to reduce uncertainty and to allow actions to support those values. Now we play our epistemological trump card—the ability of diverse communities, if they operate in an open, democratic mode—to focus attention on weak assumptions and unjustifiable principles. In open public debate and open public processes, when well-informed stakeholders have free access to information and to political institutions, diverse members of a community will have an incentive to identify weaknesses—scientific, economic, and moral—in policies proposed by competing groups. If a process can be created that mimics the process the repairmen on Neuraths boat must develop if they are to survive, then we can give up the dry dock of a priori, self-evident truths and trust science and the observational method, especially if empowered by a strong sense of shared community values, to identify weak planks and keep the boat afloat. So a reasonable way to proceed, in an adaptive management framework, is to inspire stakeholders and participants to challenge and question both the beliefs of science and the proposed goals and values. Democracy, in this sense, can be a powerful engine of truth-seeking. A diverse population, in adaptive management as well as in Darwinian evolution, increases adaptability, by exploring a variety of available options, winnowing out the weak assumptions, and pursuing the most justifiable goals within a particular situation.¶ Provided Neuraths analogy is apt, we can proceed with our analysis, having established a crucial role for values in our epistemological choices; now we turn our attention to improving our understanding of, and language for describing, environmental values. We want to understand environmental values theoretically. As adaptive managers, however, we are also interested in the way they function in a process of local, community-based experimental management. So far I have emphasized the practical costs of not having at our disposal a coherent and intelligible language, and an associated explanatory theory, for discussing environmental values and policy. These practical difficulties were symbolized by the crooked corridors at EPA; and none of EPA's corridors of communication are more crooked and blocked than those through which information about environmental values and goals should flow.¶ One important requirement of straightened corridors of communication is the creation of an integrative language that allows cross-disciplinary and cross-interest-group communication. So one task is to develop some clearer ways of talking about environmental values, relating them to the statements of disciplinary and integrative sciences, and—most importantly and most practically—creating an enlightening, integrative discourse about environmental science, values, and policy goals. If we are to go beyond simply improving communication, however, and move toward substantive agreements about what to do to protect resources and live sustainably, we must also provide a theoretical structure that connects the ideal of sustainability to justifiable environmental policy goals that can be operationalized, goals that can be stated and pursued in real-life communities with real-life problems. The purpose of this part of the book is two-fold: to improve our linguistic tools for communication about environmental values and to offer the broad outlines of a positive theory of environmental values.¶ Pragmatists, from Peirce to Leopold, and adaptive managers are not anti-theory; they are; however, very wary of theory cut loose from possible observation. No beliefs are ultimately immune from revision in the face of experience; all theory must sooner or later stand the test of experience, which helps us to separate truth from falsehood and nonsense. This generalization applies to theories of environmental value no less than to empirical hypotheses about causal factors. The goal of such a process is to create theory as a general reflection of experience and to avoid a priori theory invoked to dictate the general shape of any environmental values. By testing proposed theories against their performance in articulating, clarifying, and justifying real environmental goals of real communities, we gradually hone a language that will help communities in the future to ask the right questions and to improve their chances of achieving meaningful improvements in their policies.

#### Their epistemology is bankrupt

Saunders 7 Peter, Adjunct Professor at the [Australian Graduate School of Management](http://en.wikipedia.org/wiki/Australian_Graduate_School_of_Management), Why Capitalism is Good for the Soul, http://www.cis.org.au/POLICY/summer%2007-08/saunders\_summer07.html

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

## Ethics

#### Evaluating consequences is most ethical – Bosnia proves

Gvosdev 5 – Nikolas Gvosdev 5 (Nikolas, Exec Editor of The National Interest, The Value(s) of Realism, SAIS Review 25.1, Muse)

As the name implies, realists focus on promoting policies that are achievable and sustainable. In turn, the morality of a foreign policy action is judged by its results, not by the intentions of its framers. A foreign policymaker must weigh the consequences of any course of action and assess the resources at hand to carry out the proposed task. As Lippmann warned, Without the controlling principle that the nation must maintain its objectives and its power in equilibrium, its purposes within its means and its means equal to its purposes, its commitments related to its resources and its resources adequate to its commitments, it is impossible to think at all about foreign affairs.8 Commenting on this maxim, Owen Harries, founding editor of The National Interest, noted, "This is a truth of which Americans—more apt to focus on ends rather than means when it comes to dealing with the rest of the world—need always to be reminded."9 In fact, Morgenthau noted that "there can be no political morality without prudence."10 This virtue of prudence—which Morgenthau identified as the cornerstone of realism—should not be confused with expediency. Rather, it takes as its starting point that **it is more moral to fulfill one's commitments than to make "empty" promises, and to seek solutions that minimize harm and produce sustainable results**. Morgenthau concluded: [End Page 18] Political realism does not require, nor does it condone, indifference to political ideals and moral principles, but it requires indeed a sharp distinction between the desirable and the possible, between what is desirable everywhere and at all times and what is possible under the concrete circumstances of time and place.11 This is why, prior to the outbreak of fighting in the former Yugoslavia, U.S. and European realists urged that Bosnia be decentralized and partitioned into ethnically based cantons as a way to head off a destructive civil war. Realists felt this would be the best course of action, especially after the country's first free and fair elections had brought nationalist candidates to power at the expense of those calling for inter-ethnic cooperation. They had concluded—correctly, as it turned out—that the United States and Western Europe would be unwilling to invest the blood and treasure that would be required to craft a unitary Bosnian state and give it the wherewithal to function. Indeed, at a diplomatic conference in Lisbon in March 1992, the various factions in Bosnia had, reluctantly, endorsed the broad outlines of such a settlement. For the purveyors of moralpolitik, this was unacceptable. After all, for this plan to work, populations on the "wrong side" of the line would have to be transferred and resettled. Such a plan struck directly at the heart of the concept of multi-ethnicity—that different ethnic and religious groups could find a common political identity and work in common institutions. When the United States signaled it would not accept such a settlement, the fragile consensus collapsed. The United States, of course, cannot be held responsible for the war; this lies squarely on the shoulders of Bosnia's political leaders. Yet Washington fell victim to what Jonathan Clarke called "faux Wilsonianism," the belief that "high-flown words matter more than rational calculation" in formulating effective policy, which led U.S. policymakers to dispense with the equation of "balancing commitments and resources."12 Indeed, as he notes, the Clinton administration had criticized peace plans calling for decentralized partition in Bosnia "with lofty rhetoric without proposing a practical alternative." The subsequent war led to the deaths of tens of thousands and left more than a million people homeless. After three years of war, the Dayton Accords—hailed as a triumph of American diplomacy—created a complicated arrangement by which the federal union of two ethnic units, the Muslim-Croat Federation, was itself federated to a Bosnian Serb republic. Today, Bosnia requires thousands of foreign troops to patrol its internal borders and billions of dollars in foreign aid to keep its government and economy functioning. Was the aim of U.S. policymakers, academics and journalists—creating a multi-ethnic democracy in Bosnia—not worth pursuing? No, not at all, and this is not what the argument suggests. But aspirations were not matched with capabilities. As a result of holding out for the "most moral" outcome and encouraging the Muslim-led government in Sarajevo to pursue maximalist aims rather than finding a workable compromise that could have avoided bloodshed and produced more stable conditions, the peoples of Bosnia suffered greatly. In the end, the final settlement was very close [End Page 19] to the one that realists had initially proposed—and the one that had also been roundly condemned on moral grounds.

## Value to Life

#### Value to life is inevitable and subjective

Schwartz 2 (Lisa, professional metaphysician, Medical Ethics: A case based approach, “The Value of Life: Who Decides and How?”, p. 112)

The second assertion made by supporters of the quality of life as a criterion for decision making is closely related to the first, but with an added dimension. This assertion suggests that the determination of the value of the quality of a given life is a subjective determination to be made by the person experiencing that life. The important addition here is that the decision is a personal one that, ideally, ought not to be made externally by another person but internally by the individual involved. Katherine Lewis made this decision for herself based on a comparison between two stages of her life. So did James Brady. Without this element, decisions based on quality of life criteria lack salient information and the patients concerned cannot give informed consent. Patients must be given the opportunity to decide for themselves whether they think their lives are worth living or not. To ignore or overlook patients’ judgment in this matter is to violate their autonomy and their freedom to decide for themselves on the basis of relevant information about their future, and comparative consideration of their past. As the deontological position puts it so well, to do so is to violate the imperative that we must treat persons as rational and as ends in themselves.

## Cap Solves Environment

#### Capitalism incentivizes protection of the environment

Veer 12(Pierre-Guy, Independent journalist writing for the Von Mises Institute, 5/2, “Cheer for the Environment, Cheer for Capitalism,” http://www.mises.ca/posts/blog/cheer-for-the-environment-cheer-for-capitalism/)

No Ownership, No Responsibility How can such a negligence have happened? It’s simple: **no one was the legitimate owner of the resources** (water, air, ground). When a property is state-owned – as was the case under communism – **government has generally little incentive to sustainably exploit it**. In communist Europe, governments wanted to industrialize their country in order, they hoped, to catch up with capitalist economies. Objectives were set, and they had to be met no matter what. This included the use of brown coal, high in sulfur and that creates heavy smoke when burned[4], and questionable farming methods, which depleted the soil. This lack of vision can also be seen in the public sector of capitalist countries. In the US, the Department of Defense creates more dangerous waste than the top five chemical product companies put together. In fact, pollution is such that cleanup costs are estimated at $20 billion. The same goes for agriculture, where Washington encourages overfarming or even farming not adapted for the environment it’s in[5]. Capitalism, the Green Solution In order to solve most of the pollution problems, there exists a simple solution: **laissez-faire capitalism, i.e.** **make sure property rights and profitability can be applied**. The latter helped Eastern Europe; when communism fell, capitalism made the countries seek profitable – and not just cheap – ways to produce, which greatly reduced pollution[6]. As for the former, it proved its effectiveness, notably with the Love Canal[7]. Property rights are also thought of in order to protect some resources, be it fish[8] or endangered species[9]. Why such efficiency? Because an owner’s self-interest is directed towards the maximum profitability of his piece of land. By containing pollution – as Hooker Chemicals did with its canal – he keeps away from costly lawsuit for property violation. At the same time, badly managed pollution can diminish the value of the land, and therefore profits. Any entrepreneur with a long-term vision – and whose property is safe from arbitrary government decisions – thinks about all that in order to protect his investment. One isn’t foolish enough to sack one’s property! In conclusion, I have to mention that I agree with environmentalists that it is importance to preserve the environment in order to protect mother nature and humans. However, I strongly disagree with their means, i.e. government intervention. Considering it very seldom has a long-term vision, it is the worst thing that can happen. In fact, one could says that most environmental disasters are, directly or indirectly, caused by the State, mainly by a lack of clear property rights. Were they clearer, they would let each and everyone of us, out of self-interest, protect the environment in a better manner. That way, everyone’s a winner.

## CCP

#### Widespread rural unrest in China threatens CCP credibility and causes attack on Taiwan

Michael **Szonyi**, professor of History at the University of Toronto and a recognized international authority on Asia, “Commentary No. 79: Canadian Security Intelligence Service Publication”, 11-29-**2k**, http://www.csis.gc.ca/pblctns/cmmntr/cm79-eng.asp

The political implications of the problems anticipated for the next stage of reform are significant. The most important political support of the CCP has always been farmers and industrial workers, precisely the two groups which stand to lose the most. Under Deng Xiaoping's leadership, the CCP abandoned collectivism and egalitarianism as the basis of regime legitimacy, substituting rapid economic development and rising income for all. But the former is proving difficult to sustain, and in any case it is no longer obvious that it leads to the latter. The regime's greatest fear must be the bottom-up challenge of endemic and accelerating pattern of urban and rural mass protest. Over 100 000 mass demonstrations were reported to the government in 1999; the real number is surely many times higher. Various types of grievances send people to the streets in China today. In the cities, the most important include the closure of bankrupt state-owned enterprises and resulting layoffs; unpaid wages, privatization of housing which involves eviction from public housing and levels of compensation inadequate for purchase of a private home, and other erosions of social welfare. In May, students at Beijing University, long a touchstone for the national sentiments, demonstrated against the unsafe campus environment after the rape and murder of a fellow student. In rural areas, people demonstrate and riot against excessive taxation, government failures to pay for procured products, land disputes, corruption and embezzlement by local officials, and manipulation of village elections. Rural and urban residents protesting against government closures of investment funds for illegal activity have been particularly outspoken because they believed that the state actively promoted and guaranteed the investment funds. Over one hundred mass demonstrations related to investment funds are said to have occurred in the upper Yangtze city of Chongqing alone.Three aspects of the demonstrations are noteworthy. First, they are occurring throughout China, in both rich and poor areas, because there are dissatisfied people everywhere. In a single week of January 2000, there were reports of anti-government protests in Guangdong's Zhongshan county, close to Hong Kong and one of China's richest counties, and in impoverished Shanxi in the north.(10) Second, the scale of the protests is large and growing. In the northern province of Liaoning, over twenty thousand miners demonstrated in February 2000 against inadequate payoffs when their bankrupt mine shut down. In May, five thousand steelworkers demonstrated, also in Liaoning. Media reports suggest the People's Liberation Army is increasingly being called upon to restore order. Rural protests are also growing in scale. In January 1999, over five thousand villagers near the Hunan capital of Changsha were dispersed by police after gathering to demonstrate against taxes and corruption.(11) Third, despite their size and intensity, the demonstrations are narrowly focused on specific economic grievances, and there is no coordination or organization linking separate protests. Thus, popular expressions of dissatisfaction will probably not become regime-threatening in the period 2001-2006. They would become much more worrying if their demands broadened to include political change, if a coordinating organization emerged, or if they become serious enough that the leadership feels compelled to distract popular feeling by manipulating nationalism, perhaps through aggressive action against Taiwan, discussed below.

#### CCP lashout goes nuclear

San **Renxing** , Epoch Times Staff, “The CCP’s Last-ditch Gamble: Biological and Nuclear War”, 8-5-0**5**, http://en.epochtimes.com/news/5-8-5/30975.html

Since the Party’s life is “above all else,” it would not be surprising if the CCP resorts to the use of **biological, chemical, and nuclear weapons** in its attempt to extend its life. The CCP, which disregards human life, would not hesitate to kill **two hundred million** **Americans**, along with **seven or eight hundred million Chinese**, to achieve its ends. These speeches let the public see the CCP for what it really is. With evil filling its every cell the CCP intends to wage a war against humankind in its desperate attempt to cling to life. That is the main theme of the speeches. This theme is murderous and utterly evil. In China we have seen beggars who coerced people to give them money by threatening to stab themselves with knives or pierce their throats with long nails. But we have never, until now, seen such a gangster who would use biological, chemical, and nuclear weapons to threaten the world, that they will die together with him. This bloody confession has confirmed the CCP’s nature: That of a monstrous murderer who has killed 80 million Chinese people and who now plans to hold one billion people hostage and gamble with their lives. \*\*\*WE DO NOT ENDORSE THE GENDERED LANUGAGE IN THIS CARD

## Mindset Shift

#### No mindset shift – political action is key

Bryant 12—prof of philosophy at Collin College (Levi, Black Ecology: A Pessimistic Moment, larvalsubjects.wordpress.com/2012/03/19/black-ecology-a-pessimistic-moment/)

So why is this an issue? It’s an issue because while environmentalists prescribe all sorts of action we need to take to avert the climate catastrophe, it seems to me that in failing to engage in an ecology of social and political institutions they are whistling past the graveyard by failing to address the question of the conditions under which action is possible. Here’s the part where everyone gets angry with me. Given the way in which government and corporations are today intertwined, I don’t think there’s much we can do to avert the coming catastrophe. As Morton says, referring to logical time, “the catastrophe has already happened”. So what would it mean, I wonder, to take Morton’s thesis seriously? Here I know Tim will disagree with me. When I look at environmental discussions in popular media and from many around me, I see the discussion revolving almost entirely around consumers.¶ We’re told that we have to consume differently to solve this problem. I agree that we need to consume differently, but I don’t see any feasible way in which driving fuel efficient cars, using less heat and AC, eating less meat, etc will solve these problems. This is because the lion’s share of our climate change problems arise from the production and distribution end of the equation, rather than the consumption end. They are problems arising from agricultural practices, factories, and how we ship goods throughout countries and the world. The problem is that given the way in which governments and corporations are intertwined with one another, and given the way in which third world countries are dependent on fossil fuels for their development, and given the fact that only governmental solutions can address problems of production and distribution, we’re left with no recourse for action. We can only watch helplessly while our bought and sold politicians continue to fiddle as the world burns.

## Cap Solves War

#### Capitalism incentivizes peace

Harrison 11 (Mark, Department of Economics, University of Warwick, Centre for Russian and East European Studies, University of Birmingham, Hoover Institution on War, Revolution, and Peace, Stanford University, “Capitalism at War”, Oct 19 http://www2.warwick.ac.uk/fac/soc/economics/staff/academic/harrison/papers/capitalism.pdf)

The determinants of wars involve both structure and agency. Agency must have a role, because wars are conceived, planned, declared, and waged by human actors. On the historical evidence, capitalism has gone to war **only when captured and driven by a determined political enterprise**. The fact remains that **of** **all social systems** liberal capitalism seems to have least in common with war. This is because of the primary emphasis that capitalism gives to **private interests, decentralized decisions, and personal freedoms**. It is true that even liberal capitalism has allowed the temporary subordination of the individual to the interests of the state in wartime. In communist and fascist societies, in contrast, the supremacy of the state over the individual was a **permanent condition**. Thus, **communism and fascism seem to have had more in common with states at war than with capitalism.**

## Collapse Kills Environment

#### Collapse kills billions and leads to far worse environmental destruction on a global scale

Rubin 8 – Dani Rubin, Earth Editor for PEJ News, January 8, 2008, “Beyond Post-Apocalyptic Eco-Anarchism,” online: http://www.pej.org/html/modules.php?op=modload&name=News&file=article&sid=7133&mode=thread&order=0&thold=0.]

Unlike twenty-five years ago, people are now publicly, saying that our global civilization is a disease and that mankind is a plague, a planetary scourge. I admit that I find these sorts of metaphors alluring. There is finality, a sense of epistemological certainty in the notion that our species is cancerous due to its avaricious proclivities. It does seem that we are busily destroying the Garden of Eden. But this metaphor is incomplete, as are many metaphors.¶ “What are we? Monsters, machines, animals, angels, humans...?” Of course, these are all possible answers, varied and complex patterns lurk in our self-definition. For me the best answer is, “We are the part of Nature that has forgotten that we are a part of nature.” (Some might say that we are in ‘complete denial’.)¶ We fool ourselves. No matter how man-made our immediate environs, we are still a part of nature – deeply and richly so. We are a part of the pageant of life, and as I said at the start, I love life. We are part of an extraordinary flowering in the universe.¶ Unlike twenty-five years ago, increasingly, people are adopting the anarcho-apocalyptic, civilization-must-fall-to-save-the-world attitude. It is a fairly clean and tight worldview, zealously bulletproof, and it scares me. I want the natural world, the greater community of life beyond our species, with all its beautiful and terrifying manifestations, and its vibrant landscapes to survive intact – I think about this a lot.¶ A quick collapse of global civilization, will almost certainly lead to greater explosive damage to the biosphere, than a mediated slower meltdown.¶ When one envisions the collapse of global society, one is not discussing the demise of an ancient Greek city-state, or even the abandonment of an empire like the Mayans. The end of our global civilization would not only result in the death of six billion humans, just wiping nature’s slate clean. We also have something like 5,000 nuclear facilities spread across the planet’s surface. And this is just one obvious and straightforward fact cutting across new radical arguments in favor of a quick fall.¶ We have inserted ourselves into the web of life on planet Earth, into its interstitial fibers, over the last 500 years. We are now a big part of the world’s dynamic biological equation set – its checks and balances. If we get a “fever” and fall into social chaos, even just considering our non-nuclear toys laying about, the damage will be profound. It will be much more devastating than our new visionaries of post-apocalyptic paradise have prophesized.¶ If one expands upon current examples of social chaos that we already see, like Afghanistan or Darfur, extrapolating them across the globe, encompassing Europe, Asia, North and South America, and elsewhere, then one can easily imagine desperate outcomes where nature is sacrificed wholesale in vain attempts to rescue human life. The outcomes would be beyond “ugly”; they would be horrific and enduring.¶ That is why I cannot accept this new wave of puritanical anarcho-apocalyptic theology. The end-point of a quick collapse is quite likely to resemble the landscape of Mars, or even perhaps the Moon. I love life. I do not want the Earth turned barren.¶ I think that those who are dreaming of a world returned to its wilderness state are lovely, naive romantics – dangerous ones. Imagine 100 Chernobyl’s spewing indelible death. Imagine a landscape over-run with desperate and starving humans, wiping out one ecosystem after another. Imagine endless tribal wars where there are no restraints on the use of chemical and biological weapons. Imagine a failing industrial infrastructure seeping massive quantities of deadly toxins into the air, water and soil.¶ This is not a picture of primitive liberation, of happy post-civilized life working the organic farm on Salt Spring Island.¶ I agree that we must change our ways. We desperately need to change our ways. Our global society is exploitative, unsustainable, and abuses the biosphere. We are in big trouble. However, coping out by calling for a hastened end to civilization is suicidal, and like all suicides, it does not fully consider what comes after – it is marked by a surplus of self-absorbed willfulness and a short-fall of thoughtful consideration.¶ There is, however, a more reasonable sub-strain of eco-apocalyptic anarchism that makes a truly heartfelt argument: “The End is coming anyway. If we hasten it, we may save species ’x’ that is currently on the verge of extinction. We should accept that our species is doomed. Must we take everything down with us in a long, slow death?”¶ I find this rhetoric particularly appealing because it awakens deep personal notions of romantic heroism in me. These are noble, caring thoughts. ¶ Unfortunately, life just isn’t quite so simple. Sure a quick crash might save a couple **of emblematic** species from extinction**, for a while,** but the near certain trade-off would be the desertification **of whole continental areas** of the planet, wiping out thousands of complete ecosystems.

#### No environmental crises or population problems

Bernauer et al. 10 – Thomas Bernauer is a professor of political science at ETH Zurich, \*\*Ms. Anna Kalbhenn is PhD candidate at the Center for Comparative and International Studies (CIS), Zurich \*\*\*Vally Koubi is a senior fellow at the Center for Comparative and International Studies (CIS) at the Swiss Federal Institute of Technology Zurich \*\*\*\* Gabriele Ruoff is postdoctoral researcher in the “International Political Economy” group of Thomas Bernauer at the Center for Comparative and International Studies, Climate Change, Economic Growth, and Conflict climsec.prio.no/papers/Climate\_Conflict\_BKKR\_Trondheim\_2010.pdf

Other scholars, commonly referred to as cornucopians or resource optimists, do not share this pessimistic view. They acknowledge that environmental degradation may negatively affect human wellbeing. But they argue that humans can adapt to resource scarcity by using market mechanisms (pricing), technological innovation, and other means (Lomborg 2001; Simon 1998). Simon (1998) for instance notes that, although population growth can lead to shortages or increased economic burdens in the short run, the ability of society to respond to such circumstances by improvements in technology and efficiency usually outstrips the constraints imposed by an increasing population**.**¶The neo-Malthusian argument has also been criticized for being overly complex and deterministic, and for ignoring important economic and socio-political factors (e.g. Gleditsch 1998; de Soysa 2002a,b; Barnett and Adger 2007; Salehyan 2008). Critics have argued that scarcity of renewable resources is just one of the factors in the overall relationship between climate change and conflict. Buhaug et al. (2008:20) note that “climate change may increase the risk of armed conflict only under certain conditions and in interaction with several socio-political factors”. They reject the idea that climate change has a direct effect on the likelihood of conflict and propose several causal pathways through which economic and political instability, social fragmentation, and migration could increase the probability of climate change leading to armed conflict.¶ Qualitative case studies (e.g. Baechler et al. 1996) provide some, albeit anecdotal evidence that climate change induced environmental degradation (such as water scarcity, soil degradation, or deforestation) has contributed to conflict in some parts of the world (e.g. the Sahel region**).** But it remains unclear to what extent these case specific findings can be generalized. Large-N studies have, so far, not been able to provide conclusive evidence. One part of this variance in empirical evidence is certainly due to the use of different measures of climate change and environmental degradation, data problems, and different sample sizes and time periods. Another part, we submit, is due to the fact that past research has focused on identification of a direct link between climatic conditions and conflict. Conditional effects that stem from key factors such as economic development and the political system characteristics may thus have been overlooked.

## Kuznets

#### Kuznet’s curve proves growth solves warming – collapse dumps dirty technology

Tierney 9 – John Tierney, Science Columnist for the New York Times, April 21, 2009, “Use Energy, Get Rich and Save the Planet,” online: http://www.nytimes.com/2009/04/21/science/earth/21tier.html?\_r=1&pagewanted=print

Their equation was I=PAT, which means that environmental impact is equal to population multiplied by affluence multiplied by technology. Protecting the planet seemed to require fewer people, less wealth and simpler technology — the same sort of social transformation and energy revolution that will be advocated at many Earth Day rallies on Wednesday.¶ But among researchers who analyze environmental data, a lot has changed since the 1970s. With the benefit of their hindsight and improved equations, I’ll make a couple of predictions:¶ 1. There will be no green revolution in energy or anything else. No leader or law or treaty will radically change the energy sources for people and industries in the United States or other countries. No recession or depression will make a lasting change in consumers’ passions to use energy, make money and buy new technology — and that, believe it or not, is good news, because...¶ 2. The richer everyone gets, the greener the planet will be in the long run.¶ I realize this second prediction seems hard to believe when you consider the carbon being dumped into the atmosphere today by Americans, and the projections for increasing emissions from India and China as they get richer.¶ Those projections make it easy to assume that affluence and technology inflict more harm on the environment. But while pollution can increase when a country starts industrializing, as people get wealthier they can afford cleaner water and air. They start using sources of energy that are less carbon-intensive — and not just because they’re worried about global warming. The process of “decarbonization” started long before Al Gore was born.¶ The old wealth-is-bad IPAT theory may have made intuitive sense, but it didn’t jibe with the data that has been analyzed since that first Earth Day. By the 1990s, researchers realized that graphs of environmental impact didn’t produce a simple upward-sloping line as countries got richer. The line more often rose, flattened out and then reversed so that it sloped downward, forming the shape of a dome or an inverted U — what’s called a Kuznets curve. (See nytimes.com/tierneylab for an example.)¶ In dozens of studies, researchers identified Kuznets curves for a variety of environmental problems. There are exceptions to the trend, especially in countries with inept governments and poor systems of property rights, but in general, richer is eventually greener. As incomes go up, people often focus first on cleaning up their drinking water, and then later on air pollutants like sulfur dioxide.¶ As their wealth grows, people consume more energy, but they move to more efficient and cleaner sources — from wood to coal and oil, and then to natural gas and nuclear power, progressively emitting less carbon per unit of energy. This global decarbonization trend has been proceeding at a remarkably steady rate since 1850, according to Jesse Ausubel of Rockefeller University and Paul Waggoner of the Connecticut Agricultural Experiment Station.¶ “Once you have lots of high-rises filled with computers operating all the time, the energy delivered has to be very clean and compact,” said Mr. Ausubel, the director of the Program for the Human Environment at Rockefeller. “The long-term trend is toward natural gas and nuclear power, or conceivably solar power. If the energy system is left to its own devices, most of the carbon will be out of it by 2060 or 2070.”¶ But what about all the carbon dioxide being spewed out today by Americans commuting to McMansions? Well, it’s true that American suburbanites do emit more greenhouse gases than most other people in the world (although New Yorkers aren’t much different from other affluent urbanites).¶ But the United States and other Western countries seem to be near the top of a Kuznets curve for carbon emissions and ready to start the happy downward slope. The amount of carbon emitted by the average American has remained fairly flat for the past couple of decades, and per capita carbon emissions have started declining in some countries, like France. Some researchers estimate that the turning point might come when a country’s per capita income reaches $30,000, but it can vary widely, depending on what fuels are available. Meanwhile, more carbon is being taken out of the atmosphere by the expanding forests in America and other affluent countries. Deforestation follows a Kuznets curve, too. In poor countries, forests are cleared to provide fuel and farmland, but as people gain wealth and better agricultural technology, the farm fields start reverting to forestland.

# 1AR

###  1AR---AT: Movements

#### No mindset shift or decline of the squo

Mead 7-28 – PhD, Professor of Foreign Affairs and Humanities at Bard College

Walter Russell, “The Energy Revolution 4: Hot Planet?,” The American Interest, http://blogs.the-american-interest.com/wrm/2012/07/28/the-energy-revolution-4-hot-planet/

But those glory days are over now, and the smarter environmentalists are bowing to the inevitable. George Monbiot, whose cries of woe and pain in the Guardian newspaper have served as the Greek chorus at each stage of the precipitous decline of the global green movement, gave voice to green grief at the prospect of a wealthy and prosperous century to come: “We were wrong,” he wrote on July 2,”about peak oil. There’s enough to fry us all.” Monbiot now gets the politics as well: There is enough oil in the ground to deep-fry the lot of us, and no obvious means to prevail upon governments and industry to leave it in the ground. Twenty years of efforts to prevent climate breakdown through moral persuasion have failed, with the collapse of the multilateral process at Rio de Janeiro last month. The world’s most powerful nation is again becoming an oil state, and if the political transformation of its northern neighbour [a reference to Canada] is anything to go by, the results will not be pretty. In other words, a newly oil rich United States is going to fight even harder against global green carbon policies, and the new discoveries will tilt the American political system even farther in the direction of capitalist oil companies. Capitalism is not, Monbiot is forced to admit, a fragile system that will easily be replaced. Bolstered by huge supplies of oil, it is here to stay. Industrial civilization is, as far as he can now see, unstoppable. Gaia, that treacherous slut, has made so much oil and gas that her faithful acolytes today cannot protect her from the consequences of her own folly. Welcome to the New Green Doom: an overabundance of oil and gas is going to release so much greenhouse gas that the world is going to fry. The exploitation of the oil sands in Alberta, warn leading environmentalists, is a tipping point. William McKibben put it this way in an interview with Wired magazine in the fall of 2011: I think if we go whole-hog in the tar sands, we’re out of luck. Especially since that would doubtless mean we’re going whole-hog at all the other unconventional energy sources we can think of: Deepwater drilling, fracking every rock on the face of the Earth, and so forth. Here’s why the tar sands are important: It’s a decision point about whether, now that we’re running out of the easy stuff, we’re going to go after the hard stuff. The Saudi Arabian liquor store is running out of bottles. Do we sober up, or do we find another liquor store, full of really crappy booze, to break into? A year later, despite the success of environmentalists like McKibben at persuading the Obama administration to block a pipeline intended to ship this oil to refineries in the US, it’s clear (as it was crystal clear all along to anyone with eyes to see) that the world has every intention of making use of the “crappy liquor.” Again, for people who base their claim to world leadership on their superior understanding of the dynamics of complex systems, greens prove over and over again that they are surprisingly naive and crude in their ability to model and to shape the behavior of the political and economic systems they seek to control. If their understanding of the future of the earth’s climate is anything like as wish-driven, fact-averse and intellectually crude as their approach to international affairs, democratic politics and the energy market, the greens are in trouble indeed. And as I’ve written in the past, the contrast between green claims to understand climate and to be able to manage the largest and most complex set of policy changes ever undertaken, and the evident incompetence of greens at managing small (Solyndra) and large (Kyoto, EU cap and trade, global climate treaty) political projects today has more to do with climate skepticism than greens have yet understood. Many people aren’t rejecting science; they are rejecting green claims of policy competence. In doing so, they are entirely justified by the record. Nevertheless, the future of the environment is not nearly as dim as greens think. Despairing environmentalists like McKibben and Monbiot are as wrong about what the new era of abundance means as green energy analysts were about how much oil the planet had. The problem is the original sin of much environmental thought: Malthusianism. If greens weren’t so addicted to Malthusian horror narratives they would be able to see that the new era of abundance is going to make this a cleaner planet faster than if the new gas and oil had never been found. Let’s be honest. It has long been clear to students of history, and has more recently begun to dawn on many environmentalists, that all that happy-clappy carbon treaty stuff was a pipe dream and that nothing like that is going to happen. A humanity that hasn’t been able to ban the bomb despite the clear and present dangers that nuclear weapons pose isn’t going to ban or even seriously restrict the internal combustion engine and the generator. The political efforts of the green movement to limit greenhouse gasses have had very little effect so far, and it is highly unlikely that they will have more success in the future. The green movement has been more of a group hug than a curve bending exercise, and that is unlikely to change. If the climate curve bends, it will bend the way the population curve did: as the result of lots of small human decisions driven by short term interest calculations rather than as the result of a grand global plan. The shale boom hasn’t turned green success into green failure. It’s prevented green failure from turning into something much worse. Monbiot understands this better than McKibben; there was never any real doubt that we’d keep going to the liquor store. If we hadn’t found ways to use all this oil and gas, we wouldn’t have embraced the economics of less. True, as oil and gas prices rose, there would be more room for wind and solar power, but the real winner of an oil and gas shortage is… coal. To use McKibben’s metaphor, there is a much dirtier liquor store just down the road from the shale emporium, and it’s one we’ve been patronizing for centuries. The US and China have oodles of coal, and rather than walk to work from our cold and dark houses all winter, we’d use it. Furthermore, when and if the oil runs out, the technology exists to get liquid fuel out of coal. It isn’t cheap and it isn’t clean, but it works. The newly bright oil and gas future means that we aren’t entering a new Age of Coal. For this, every green on the planet should give thanks. The second reason why greens should give thanks for shale is that environmentalism is a luxury good. People must survive and they will survive by any means necessary. But they would much rather thrive than merely survive, and if they can arrange matters better, they will. A poor society near the edge of survival will dump the industrial waste in the river without a second thought. It will burn coal and choke in the resulting smog if it has nothing else to burn. Politics in an age of survival is ugly and practical. It has to be. The best leader is the one who can cut out all the fluff and the folderol and keep you alive through the winter. During the Battle of Leningrad, people burned priceless antiques to stay alive for just one more night. An age of energy shortages and high prices translates into an age of radical food and economic insecurity for billions of people. Those billions of hungry, frightened, angry people won’t fold their hands and meditate on the ineffable wonders of Gaia and her mystic web of life as they pass peacefully away. Nor will they vote George Monbiot and Bill McKibben into power. They will butcher every panda in the zoo before they see their children starve, they will torch every forest on earth before they freeze to death, and the cheaper and the meaner their lives are, the less energy or thought they will spare to the perishing world around them. But, thanks to shale and other unconventional energy sources, that isn’t where we are headed. We are heading into a world in which energy is abundant and horizons are open even as humanity’s grasp of science and technology grows more secure. A world where more and more basic human needs are met is a world that has time to think about other goals and the money to spend on them. As China gets richer, the Chinese want cleaner air, cleaner water, purer food — and they are ready and able to pay for them. A Brazil whose economic future is secure can afford to treasure and conserve its rain forests. A Central America where the people are doing all right is more willing and able to preserve its biodiversity. And a world in which people know where their next meal is coming from is a world that can and will take thought for things like the sustainability of the fisheries and the protection of the coral reefs. A world that is more relaxed about the security of its energy sources is going to be able to do more about improving the quality of those sources and about managing the impact of its energy consumption on the global commons. A rich, energy secure world is going to spend more money developing solar power and wind power and other sustainable sources than a poor, hardscrabble one. When human beings think their basic problems are solved, they start looking for more elegant solutions. Once Americans had an industrial and modern economy, we started wanting to clean up the rivers and the air. Once people aren’t worried about getting enough calories every day to survive, they start wanting healthier food more elegantly prepared. A world of abundant shale oil and gas is a world that will start imposing more environmental regulations on shale and gas producers. A prosperous world will set money aside for research and development for new technologies that conserve energy or find it in cleaner surroundings. A prosperous world facing climate change will be able to ameliorate the consequences and take thought for the future in ways that a world overwhelmed by energy insecurity and gripped in a permanent economic crisis of scarcity simply can’t and won’t do.

#### Global order won’t be restructured---movements just kill billions

Mead 9

2/4, Walter Russell, Henry A. Kissinger Senior Fellow in U.S. Foreign Policy at the Council on Foreign Relations, Only Makes You Stronger: Why the recession bolstered America, The New Republic

Even before the Panic of 2008 sent financial markets into turmoil and launched what looks like the worst global recession in decades, talk of American decline was omnipresent. In the long term, the United States faces the rise of Asia and the looming fiscal problems posed by Medicare and other entitlement programs. In the short term, there is a sense that, after eight years of George W. Bush, the world, full of disdain for our way of life, seems to be spinning out of our--and perhaps anybody's--control. The financial panic simply brought all that simmering anxiety to a boil, and the consensus now seems to be that the United States isn't just in danger of decline, but in the full throes of it--the beginning of a "post-American" world. Perhaps--but the long history of capitalism suggests another possibility. After all, capitalism has seen a steady procession of economic crises and panics, from the seventeenth-century Tulip Bubble in the Netherlands and the Stop of the Exchequer under Charles II in England through the Mississippi and South Sea bubbles of the early eighteenth century, on through the crises associated with the Napoleonic wars and the spectacular economic crashes that repeatedly wrought havoc and devastation to millions throughout the nineteenth century. The panics of 1837, 1857, 1873, 1893, and 1907 were especially severe, culminating in the Great Crash of 1929, which set off a depression that would not end until World War II. The series of crises continued after the war, and the last generation has seen the Penn Central bankruptcy in 1970, the first Arab oil crisis of 1973, the Third World debt crisis of 1982, the S&L crisis, the Asian crisis of 1997, the bursting of the dot-com bubble in 2001, and today's global financial meltdown. And yet, this relentless series of crises has not disrupted the rise of a global capitalist system, centered first on the power of the United Kingdom and then, since World War II, on the power of the United States. After more than 300 years, it seems reasonable to conclude that financial and economic crises do not, by themselves, threaten either the international capitalist system or the special role within it of leading capitalist powers like the United Kingdom and the United States. If anything, the opposite seems true--that financial crises in some way sustain Anglophone power and capitalist development.

### 1AR---Sustainable

#### Capitalism is environmentally sustainable

Hayward 3 (Steven, Fellow @ the American Enterprise Institute, “A Sensible Environmentalism,” March 22nd, <http://www.aei.org/article/16854>)

Limits to Growth? Among serious environmentalists **the limits-to-growth notion has been discredited** and abandoned, albeit grudgingly. Reactions to Bjorn Lomborg's recent book, The Skeptical Environmentalist: Measuring the True State of the Planet, made clear just how entrenched the old philosophy had become. Lomborg challenged what he called the environmental "Litany," i.e., the sum of environmental alarms (pollution, deforestation, species loss, etc.) that supposedly suggests that "the world's ecosystem is breaking down." **Most** of the **data in fact show[s] that environmental problems are either getting better or are vastly exaggerated**. The reaction to Lomborg's findings was as incoherent as it was furious. On the one hand, Lomborg was attacked for factual errors, though in the rough and tumble of debate over the book only a handful of minor errors were demonstrated. On the other hand, it was argued that while Lomborg's facts might be in order, he was attacking a straw man--no serious environmentalist believed in the limits-to-growth litany any more. Environmental scientist Michael Grubb of Cambridge University wrote in his Science magazine review of Lomborg that "to any professional, it is no news at all that **the** 1972 **Limits to Growth study was mostly wrong** or that Paul Ehrlich **and** Lester Brown have **perennially exaggerated** the problems of food supply." Allen Hammond of the World Resources Institute argued that Lomborg's book "paints a caricature of the environmental agenda based on sometimes mistaken views widely held 30 years ago, but to which no serious environmental institution subscribes today." This is disingenuous. **The gloom-and-doom view of the environment still dominates** the news media and **popular environmental rhetoric, even though** more k**nowledgeable environmentalists know better**. Lomborg's compelling book put the last nail in the coffin of the limits-to-growth mentality, which had been the environmental movement's most valuable public-relations tool. The weakness of the limits-to-growth argument does not mean there are no long-term environmental problems associated with growth. Hence the idea of **sustainable development was born**. It may have been intended as a euphemism for less development, just as in today's debates over suburban sprawl "smart growth" is often a euphemism for less growth. But ideas often take on a life of their own, and that has happened with sustainable development. In 1987, the World Commission on Environment and Development, more commonly known as the Bruntland Commission after its chairman, former Norwegian Prime Minister Gro Harlem Bruntland, propelled sustainable development to the forefront with its report Our Common Future. The Bruntland Commission defined sustainable development as "meet[ing] the needs of the present without compromising the ability of future generations to meet their own needs." Although this definition is suggestive, the language is still too vague to be helpful in formulating policy. Former President Bill Clinton's Council on Sustainable Development recognized in its 1996 report that the definition was inexact." As a U.N. report observed in May 2002, "The concept of sustainable development does not yet provide decision-makers with the kind of detailed and integrated prescriptions that they need to make day to day policy decisions." Even though sustainable development defies a precise definition, at a general level **it** still **holds common sense appeal**. No one is for a mode of life that would make future generations poorer, or for one that degrades our environment and thereby jeopardizes the health of future generations. Yet sustainable development is inherently contentious because of the difficulty of comprehending the myriad linkages among environmental factors in a dynamic world. Clashing conceptual frameworks lead to widely varying conclusions about what constitutes sustainability, and quantifying sustainable development is nearly impossible. As environmental scientist Timothy O'Riordan warned in 1988, "It may only be a matter of time before the metaphor of sustainability becomes so confused as to be meaningless, certainly as a device to straddle the ideological conflicts that pervade contemporary environmentalism." Renewable Resources The first step toward taking sustainable development seriously is to treat it not as a metaphor or political straddle but as a practical tool for analyzing environmental and resource-use problems and distinguishing good policy from bad. This can be done by applying the idea to several discrete environmental issues: renewable resources, nonrenewable resources, local ecosystems, and the global ecosystem. Renewable resources--such as forestlands, watersheds, wildlife, and other self-generating resources and ecosystems--present the clearest application of the idea. A renewable resource is used unsustainably when it is exploited at a faster rate than it can replenish itself. Typically, **in a well-functioning market, price increases** are a signal of unsustainable usage and an **induce**ment to **conservation** and substitution. **Most instances of unsustainable use of** renewable **resources can be attributed to a lack of a well-functioning market** and price system, **a lack of property rights** to resources or ready alternatives to those resources (especially in underdeveloped nations), **or perverse regulatory policies**. Groundwater and stream-flow resources in the United States are often overused because of government subsidies and a lack of clearly defined, tradable property rights to water. Overfishing in the oceans is one example of unsustainable use of resources owned in common. It is easy to imagine that cattle might be scarce if they were owned in common and were taken from one vast domain (as buffalo once were) rather than being privately owned on separate ranches. Assigning ownership rights to ocean fishing should not be much more difficult than assigning rights to the radio frequency spectrum, as has been done throughout the world. Some promising experiments are using property rights to preserve fisheries in New Zealand, Iceland, and several other areas. Research advances in resource economics have cast a shadow on regulatory approaches to many large-scale resource-use problems, and interest is growing in the use of markets and property rights to solve these problems, even among left-leaning environmentalists. Much destruction of forest resources resulted from unsound government measures--measures that private owners would not likely have undertaken to the same extent, if at all. As former vice president Al Gore noted in Earth in the Balance, "**The most serious examples of environmental degradation in the world today are tragedies that were created or actively encouraged by governments**--usually in pursuit of some notion that a dramatic reordering of the material world would enhance the greater good." Whether caused by faulty markets or faulty public policies, **overuse of renewable resources is relatively easy to correct** in principle and increasingly in practice. For example, forestland in the United States and other industrialized nations has been increasing for more than 40 years. There are signs as well that the **unsustainable exploitation** of rain forests throughout the developing world **is beginning to ebb.**

### 1AR---UQ

#### The state of the world has never been better, we are increasing on all metrics

Brookings Institute ’11 (Brookings Institute, Global Think tank, “Poverty in Numbers: The Changing State of Global Poverty from 2005 to 2015 by the Brookings Institute”, <http://nextbigfuture.com/2011/02/poverty-in-numbers-changing-state-of.html>, February 26, 2011, LEQ)

By 2015, we will not only have halved the global poverty rate, but will have halved it again to under 10 percent, or less than 600 million people, with India and China responsible for three-quarters of the reduction in the world’s poor expected between 2005 and 2015. How many poor people are there in the world and how many are there likely to be in 2015? To calculate the number of people in the world living in extreme poverty, we update the World Bank’s official $1.25 a day poverty estimates for 119 countries, which together account for 95 percent of the population of the developing world. To do this, we take the most recent household survey data for each country, and generate poverty estimates for the years 2005 to 2015 using historical and forecast estimates of per capita consumption growth, making the simplifying assumption that the income distribution in each country remains unchanged. Global poverty figures are then calculated by adding together the number of poor from each country. (See the Appendix for a full account of our methodology.) Our results indicate that the world has seen a dramatic decrease in global poverty over the past six years, and that this trend is set to continue in the four years ahead. We estimate that between 2005 and 2010, the total number of poor people around the world fell by nearly half a billion people, from over 1.3 billion in 2005 to under 900 million in 2010. Looking ahead to 2015, extreme poverty could fall to under 600 million people—less than half the number regularly cited in describing the number of poor people in the world today. Poverty reduction of this magnitude is unparalleled in history: never before have so many people been lifted out of poverty over such a brief period of time. When measured as a share of population, progress remains impressive, but is more in line with past trends. In the early 1980s, more than half of all people in developing countries lived in extreme poverty. By 2005, this was down to a quarter. According to our estimates, as of 2010 less than 16 percent remained in poverty, and fewer than 10 percent will likely be poor by 2015. The first Millennium Development Goal defines a target (MDG1a) of halving the rate of global poverty by 2015 from its 1990 level. In an official report prepared for the U.N. MDG conference this past September, the World Bank stated that we are 80 percent of the way toward this target and are on track to meet it by 2015, though the Bank warned that “the economic crisis adds new risks to prospects for reaching the goal.” Our assessment is considerably more upbeat. We believe that the MDG1a target has already been met—approximately three years ago. Furthermore, by 2015, we will not only have halved the global poverty rate, as per MDG1a, but will have halved it again. Over the past half century, the developing world, including many of the world’s poorest countries, have seen dramatic improvements in virtually all non-income measures of well-being: since 1960, global infant mortality has dropped by more than 50 percent, for example, and the share of the world’s children enrolled in primary school increased from less than half to nearly 90 percent between 1950 and today.5 Likewise there have been impressive gains in gender equality, access to justice and civil and political rights. Yet, through most of this period, the incomes of rich and poor countries diverged, and income poverty has proven a more persistent challenge than other measures of wellbeing. The rapid decline in global poverty now underway—and the early achievement of the MDG1a target—marks a break from these trends, and could come to be seen as a turning point in the history of global development. Unlike previous decades, like the ’80s (when the poverty rate increased in Africa) and the ’90s (when it increased in Latin America and the former Soviet Union), poverty reduction is currently taking place in all regions of the world. The sharpest fall in poverty is occurring in Asia. South Asia alone is expected to see a reduction in the number of its poor of more than 430 million over the 10-year period we study, representing a fall in its poverty rate of over 30 percentage points. East Asia already recorded a vast drop in poverty between 1980 and 2005, and this trend is continuing: a further 250 million people in the region are expected to escape poverty by 2015, two-thirds of whom have likely already done so. For the first time, Sub-Saharan Africa’s poverty rate has fallen below 50 percent. The total number of poor people in the region is falling too, albeit slowly. Better still, by 2015, the poverty rate is expected to fall below 40 percent—a rate China did not achieve until the mid-90s.

### 1AR---Solves Poverty

#### Cap solves poverty

Meltzer 11 (Allan H, Professor of Political Economy at Carnegie Mellon, “Why Capitalism?”, 1/1, http://repository.cmu.edu/cgi/viewcontent.cgi?article=1581&context=tepper&sei-redir=1)

Growth and Progress After World War II, and especially after 1960, the developed countries led by the United States worked to raise growth rates in poor countries of the world. There were two experiments. The former Soviet Union and its fellow Communist countries controlled property and directed resource use according to plans developed by a central bureaucracy. Capitalist countries relied on opening to the international market and to resource allocation based on market demand and individual choice. The results are clear. **Capitalism and the market system proved much more effective at development and poverty reduction** than planning systems whether as in India by a democratically chosen government or by an authoritarian regime as in the Soviet Union or China. **There is not a single example of sustained successful growth under traditional Communism.** The contrast was clear at the end of the 1980s in comparison between North and South Korea, East and West Germany, and China compared to the Chinese Diasporas in Asia. The Indian government tried to apply the socialist principles taught to many of its leaders at the London School of Economics. **There can be no better recognition of the failure of these alternatives to capitalism and the market system than their abandonment by their practitioners**. India, China, and most of the former Communist countries opened their economies. China and others joined the world trading system. China and India permitted and even encouraged private ownership of resources including capital. **The result was a dramatic reduction in poverty**. Many more people improved their living standards than in fifty years of development under government planning, regulation and resource allocation. **Capitalism and the market proved far better than the state at reducing poverty and raising living standards**. Critics of capitalism turned to other reasons for opposition. Margaret Thatcher described their reaction to her success at reforming the British economy, increasing productivity and reducing inflation. “Deprived for the moment at least of the opportunity to chastise the Government and blame free enterprise capitalism for failing to create jobs and raise living standards, the left turned their attention to non-economic issues. The idea that the state was the engine of economic progress was discredited—and even more so as the failures of communism became more widely known. But was the price of capitalist prosperity too high? Was it not resulting in gross and 10offensive materialism, traffic congestion and pollution? … [W]as not the ‘quality of life’ being threatened? “I found all this misguided and hypocritical. If socialism had produced economic success the same critics would have been celebrating in the streets.”

### 1AR---K2 Environment

#### Ending cap just causes tech stagnation---people will use the cheapest, dirtiest tech

Bailey 2 – Ronald Bailey, science correspondent for Reason magazine and Reason.com, member of the Society of Environmental Journalists and the American Society for Bioethics and Humanities, November 20, 2002, “Ethical Poverty: Staying Poor to Save the Planet,” online: http://www.reason.com/news/show/34913.html

With regard to using physical resources, no less an environmental alarmist than Al Gore noted in 1999 that "throughout our economy, skills, intelligence, and creativity are replacing mass and money—which is why, in the past 50 years, the value of our economy has tripled, while the physical weight of our economy as a whole has barely increased at all." In other words, we got richer not just by using more stuff but by using it more intelligently. Forests are expanding, and water use per capita in the United States has been going down for two decades.

Economic growth is what has paid for both the technological improvements and the compliance with regulations that have made environmental improvements possible. To consider just how wrongheaded Elliott and Lamm are, think how polluted the United States would be if the economy hadn't grown at all since the 1950s. People would still be using technologically backward cars spewing pollutants. There would be very few municipal sewage treatment plants on rivers, no filters on coal-fired electric plants, few controls on industrial dumping, and no modern landfills. Forests would have been chopped down to accommodate low-productivity farms.

### 1AR---Doesn’t Solve Environment

#### No mindset shift

Chen 2K – Jim Chen, Professor of Law and Vance K. Opperman Research Scholar, University of Minnesota Law School, Winter 2000, “Globalization and Its Losers,” Minnesota Journal of Global Trade, 9 Minn. J. Global Trade 157, p. lexis

The notion of a "golden age" is perhaps the oldest myth in Western environmentalism. Jean-Jacques Rousseau idealized the preindustrial victims of European colonization as "noble savages," living in perfect harmony with nature and wholly innocent of civilization's injustices. n166 Such romanticism, alas, did not end with James Fenimore Cooper. Contemporary critics of NAFTA, for instance, openly describe that treaty's environmental concerns as a pitched battle between evil Anglo industrialism and virtuous Mexican traditionalism:¶ [\*184] ¶ The most effective control over the predatory incursions of large, agro-industrial enterprises, oil exploration and refineries, and tourist meccas that are the principal cause of most of the current environmental deterioration, could be exercised by small plot cultivators and artisans who draw on centuries of experience and knowledge in their exploitation of resources. n167¶ **This simplistic view is the environmental equivalent of "racial fundamentalism**": "Dark skin good, white skin bad." n168 It is also dead wrong. **The mirage of a golden age stems from the foulest of environmental fallacies**, "forgetting that we live, after all, in a 'fallen world.'" n169 **A cold survey of environmental disasters, from wildlife extermination on New Zealand and Madagascar to habitat destruction in Anasazi country and on Easter Island, shows that** the propensity to destroy the environment flourishes in any cultural setting. n170