**Inherency**

**1AC – Inherency**

**Renewables currently barred from forming MLPs—this stifles renewable energy projects**

**Blodgett and Gawell 12**

(Leslie and Karl, Geothermal Energy Weekly, “New MLP Parity Act Could Give a Boost to Geothermal/Renewable Energy Investors,” 2012, <http://geo-energy.org/Newsletter/2012/Geothermal%20Energy%20Weekly%20July%2019%202012.pdf//wyo-mm>)

An MLP is a business structure that is taxed as a partnership, but whose ownership interests are traded like corporate stock on a market. By statute, **MLPs have only been available to investors in energy portfolios for oil, natural gas, coal extraction, and pipeline projects**. These projects get access to capital at a lower cost and are more liquid than traditional financing approaches to energy projects, making them highly effective at attracting private investment. **Investors in renewable energy projects**, however, **have been explicitly prevented from forming MLPs, starving a growing portion of America’s domestic energy sector of the capital it needs to build and grow**. See also a white paper on the MLP Parity Act. Original cosponsors: Senators Jon Tester (D-Mont.), Al Franken (D-Minn.), Amy Klobuchar (D-Minn.), Sheldon Whitehouse (D-R.I.), and Jeanne Shaheen (D-N.H.).

**Plan**

**1AC – Plan**

**Plan: The United States federal government should expand its master limited partnerships to include wind and solar energy.**

**Solvency**

**1AC – Solvency**

**Plan solves—expanding MLP’s to renewable energy is key to spur investment and development of wind and solar technology**

**Mormann and Reicher, 6-2-12**

[Felix and Dan, NYT editorial staff, “How to Make Renewable Energy Competitive.” The New York Times. (June 2, 2012): News: pNA(L), Accessed online via academic onefile] /Wyo-MB

Two **financial mechanisms** that have driven investment in traditional energy projects -- real estate investment trusts and master limited partnerships -- **could**, with some help from Washington, **be extended to renewable energy projects to lower their cost and make America's energy future cleaner, cheaper -- and more democratic**.¶ Federal support for renewable energy today consists primarily of two tax breaks: tax credits and accelerated depreciation rates. But both tools have a very limited reach. Only investors with hefty tax bills, typically big banks or corporations, can exploit them to reduce their tax burden. Most potential investors, including tax-exempt pension funds and, importantly, retail investors trading stocks, don't have big enough tax bills to exploit the break. As a result, the few remaining players whose considerable tax bills place them in the market for tax breaks are able to demand returns of up to 30 percent for investing in renewable energy projects -- an investment known as ''tax equity.''¶ There are **better options**. They may sound wonky, but they **could prove revolutionary**.¶ Real estate investment trusts, or REITs, which are traded publicly like stocks, could tap far broader pools of capital to vastly lower the cost of financing renewable energy. REITs have a market capitalization of over $440 billion while paying shareholders average dividends below 10 percent -- roughly a third of the cost of tax equity investments for renewable energy.¶ **Master limited partnerships carry the fund-raising advantages of a corporation: ownership interests are publicly traded and offer investors the liquidity, limited liability and dividends of classic corporations. Their market capitalization exceeds $350 billion**. With average dividends of just 6 percent, **these investment vehicles could substantially reduce the cost of financing renewables.**¶ But **current law makes using both of these investment vehicles for renewable energy difficult if not impossible. Washington could help** in two ways. **First,** the Internal Revenue Service needs to clarify the eligibility of renewable power generation for REIT financing. Second, **Congress needs to fix a bizarre distinction in the tax code that bars master limited partnerships from investing in ''inexhaustible'' natural resources like the sun and wind, while allowing investments in exhaustible resources like coal and natural gas**. In 2008, as surging gasoline prices were infuriating American voters, Congress amended the tax code to enable master limited partnerships to invest in alternative transportation fuels like ethanol. **We should treat power sources, like wind and solar farms, similarly**.¶ There is hope. Senator Chris Coons, Democrat of Delaware, plans to introduce a bill to allow master limited partnership investment in renewable energy. This approach is preferable to a recent proposal by Senator Bernard Sanders, independent of Vermont, and Representative Keith Ellison, Democrat of Minnesota, **to eliminate this investment option for fossil-fuel projects**. Both moves **would level the playing field between conventional and renewable energy**, but the Coons bill does so by **promoting**, rather than limiting, **economic growth across the energy industry**.¶ **These approaches could help renewable energy projects reduce their financing costs up to fivefold**. **These cost improvements could significantly reduce the price of renewable electricity and, over time, erase the need for costlier subsidies**. Of course, **making renewable energy eligible for master limited partnership** and REIT financing **would amount to a new kind of subsidy**, **because both are exempt from income tax**. Indeed, some **members of Congress fear that expanding master limited partnerships will erode the federal tax base. We don't think so. Investors in master limited partnerships** and REITs **still pay taxes on dividends**. Moreover, **these investments would most likely bring many more renewable energy projects online, actually raising overall tax revenue**.

**And a smart mix of wind and solar projects is key to renewable solvency**

**Jacobson and Delucchi, 2009**

[Mark Z. Jacobson is professor of civil and environmental engineering at Stanford University and director of the Atmosphere/Energy Program there. He develops computer models to study the effects of energy technologies and their emissions on climate and air pollution. Mark A. Delucchi is a research scientist at the Institute of Transportation Studies at the University of California, Davis. He focuses on energy, environ­mental and economic analyses of advanced, sustainable transportation fuels, vehicles and systems, “A Plan to Power 100 Percent of the Planet with Renewables.” Scientific American, 10-26-2009, Online, http://www.scientificamerican.com/article.cfm?id=a-path-to-sustainable-energy-by-2030&page=5] /Wyo-MB

**A new infrastructure must provide energy on demand at least as reliably as the existing infrastructure.** WWS technologies generally suffer less downtime than traditional sources. The average U.S. coal plant is offline 12.5 percent of the year for scheduled and unscheduled maintenance. **Modern wind turbines have a down time of less than 2 percent on land and less than 5 percent at sea. Photovoltaic systems are also at less than 2 percent. Moreover, when an individual wind, solar or wave device is down, only a small fraction of production is affected**; when a coal, nuclear or natural gas plant goes offline, a large chunk of generation is lost.¶ **The main** WWS **challenge is that the wind does not always blow and the sun does not always shine in a given location. Intermittency problems can be mitigated by a smart balance of sources, such as** generating a base supply from steady geothermal or tidal power, **relying on wind at night when it is often plentiful, using solar by day** and turning to a reliable source such as hydroelectric that can be turned on and off quickly to smooth out supply or meet peak demand. For example, **interconnecting wind farms that are only 100 to 200 miles apart can compensate for hours of zero power at any one farm should the wind not be blowing there.** Also helpful is interconnecting **geographically dispersed sources** so they **can back up one another,** installing smart electric meters in homes that automatically recharge electric vehicles when demand is low and building facilities that store power for later use.¶ **Because the wind often blows during stormy conditions when the sun does not shine and the sun often shines on calm days with little wind, combining wind and solar can go a long way toward meeting demand**, especially when geothermal provides a steady base and hydroelectric can be called on to fill in the gaps.¶

**And the federal government is key, changing MLP structure creates a stable regulatory environment**

**Freed and Stevens 11**

(Josh and Mae, Freed is the Vice President of the Third Way Clean Energy Program and served for more than a decade as a political strategist for national, federal and local campaigns and was a senior staffer on Capitol Hill, Stevens is a Policy Advisor for the Third Way Clean Energy Program, Third Way, “A Small Tax Change, Big Clean Energy Results,” December 2011, <http://content.thirdway.org/publications/475/Third_Way_Idea_Brief_-_A_Small_Tax_Change_Big_Clean_Energy_Results.pdf//wyo-mm>)

Moreover, the economic downturn that began in 2008 has made it difficult for companies to find tax equity. First, the tax equity market itself has been decimated. The banks and financial institutions that typically provided these funds are themselves in financial straits and no longer need or seek tax equity. **A report by the U.S. Partnership for Renewable Energy Finance estimated that, while the tax equity market is beginning to rebound, it is still barely half the size it was in 2007**. 12 Second, the **lack of consistent federal government policy is making it** almost **impossible for investors to anticipate what the tax and regulatory environment for tax equity funded projects will be**. Understandably, **they are reluctant to commit funds that will be illiquid for a long period.** **As a result, developers must look to commercial banks and other commercial lenders** for “commercial debt.” **Commercial lenders don’t require an equity stake in a project and generally seek lower returns** on their funds, but they are willing to take these lower returns because these projects are much less risky. Typically, debt providers want all the permitting, equity raises, construction plans, intellectual property resolutions, and other legal issues completed and pledged as collateral before they will make their loan. **This is, understandably, difficult for innovative energy companies to provide**.

**Warming**

**1AC – Warming Advantage**

**American clean energy markets are on the verge of collapse- a perfect storm of expiring financial incentives and declining export opportunities will gut renewables absent fast policy action**

**Jenkins et al 12**

[Jesse, Director of Energy and Climate Policy, Breakthrough Institute, Mark Muro, Senior Fellow, Metropolitan Policy Program, Brookings Institution, Ted Nordhaus and Michael Shellenberger, Cofounders, Breakthrough Institute, Letha Tawney, Senior Associate, World Resources Institute, Alex Trembath, Policy Associate, Breakthrough Institute, Beyond Boom and Bust: Putting Clean Tech on a Path to Subsidy Independence, April 2012, p. online//wyo-tjc]

**In the absence of significant and timely energy policy reform, the recent boom in US clean tech sectors could falter**. **Driven by** private innovation and entrepreneurship as well as **critical public sector support in the form of tax credits, grants, and loan guarantees, several clean energy technology (or “clean tech”) segments have grown robustly in recent years while making progress on cost and performance**. Renewable electricity generation doubled from 2006 to 2011, construction is under way on the nation's first new nuclear power plants in decades, and American manufacturers have regained market share in advanced batteries and vehicles. Prices for solar, wind, and other clean energy technologies fell, while employment in clean tech sectors expanded by almost 12 percent from 2007 to 2010, adding more than 70,000 jobs even during the height of the recession.1 **Despite this recent success**, however, **nearly all clean tech segments in the United States remain reliant on production and deployment subsidies** or other supportive policies to gain an expanding foothold in today’s energy markets. **Now, many of these subsidies and policies are poised to expire—with substantial implications for the clean tech industry**. This report aims to take stock of the coming changes to federal clean tech subsidies and programs (Part 1); examine their likely impact on key clean tech market segments (Part 2); and chart a course of policy reform that can advance the US clean tech industry beyond today’s policy-induced cycle of boom and bust (Part 3). Along the way, this report provides a comprehensive analysis of the spending trajectory of 92 distinct federal policies and programs supporting clean tech sectors over the 2009 to 2014 period. As this analysis illustrates, **an era of heightened clean energy spending supported by the American Recovery and Reinvestment Act of 2009** (ARRA) **is now coming to an end, coinciding with the expiration of several additional time-delimited tax credits and programs. As a result, key portions of the clean tech industry can now anticipate substantially reduced federal support** (see Figure ES1). **At the same time, market subsidies are being cut in several European markets,2 reducing export oppor tunities for US clean tech manufacturers and leading to oversupply and declining margins**,3 even as pressure mounts from both low-cost natural gas at home4 and foreign clean tech manufacturers abroad.5 **US clean tech sectors therefore face a combination of new challenges, despite the growth and progress achieved in recent years**. The specific market impacts will vary by sector (see Part 2). But **without timely and targeted policy reform, several sectors are likely to experience more bankruptcies, consolidations, and market contraction ahead**.

**MLP’s spur investment in renewable energy infrastructure projects**

**Joshi and Bansal 11**

(John and Malay, Joshi is Managing Director at CapitalFusion Partners LLC, an advisory firm focused on renewable energy and infrastructure projects, Bansal is Managing Director at CapitalFusion Partners LLC, where he focuses on financing for clean energy, infrastructure, and commercial real estate, Aol Energy, “The Case For Master Limited Partnerships,” July 20, 2011, <http://energy.aol.com/2011/07/20/the-case-for-master-limited-partnerships///wyo-mm>)

**Developing MLPs for the Renewable Energy sector could spur greater investment in the sector and provide** an **additional asset class for investors. Retail investors could participate in the sector with products that have a fixed-income like structure with lower overall volatility and correlation to equity assets in the clean-tech sectors. Currently tax-equity based structures for renewables are not available to the retail investors**. **Structured MLPs could provide access to capital** that would not be traditionally available **for project finance or infrastructure development.**

**Warming is real; human caused and rapid: there are four key signals carbon dioxide increase, melting of polar ice caps, melting glaciers, and rapid sea level rise**

**Prothero 12**

(Donald R. Prothero is a Professor of Geology at Occidental College and Lecturer in Geobiology at the California Institute of Technology. “How we know global warming is real and human caused” Winter 2012. Academic OneFile//wyoccd)

Converging Lines of **Evidence 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 un-precedented 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 Little 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, t**his 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 l0,000 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 flesh 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.

**Wind power generation directly offsets emissions**

**Joseph A. Cullen, 11**

Professor of economics at Harvard, is an economist who investigates the economics of energy and its implications for our environment. “Measuring the Environmental Benefits of Wind-Generated Electricity” <http://www.u.arizona.edu/~jcullen/Documents/measuringwind.pdf>, accessed 8-22-12,WYO/JF

Utilizing information on production decisions in 15-minute intervals on the Texas electricity grid, I estimate the response of each generator to exogenous changes in wind power, using a reduced form model. Realizing that **wind power production is not** 2 **completely random**, I control for factors that may drive the incentives for electricity production, which may also be correlated with wind power production. **The resulting quasi-experimental residual variation is then used to identify a substitution coefficient for each generator on the grid**. **This measures the average reduction in output due to a 1 megawatt (MW) increase in wind energy production. These production offsets translate directly into emissions offset using EPA measurements of power plant emission rates. Estimated emission offsets can be valued by appealing to pollution permit markets for regulated pollutants** (NOx and SO2) and estimates from the literature on the social cost of carbon for unregulated CO2 emissions. **This allows a direct comparison between the value of offset emissions with the cost of subsidies which drive investment in wind farms**. The remainder of the paper proceeds as follows. First, I describe the nature of federal and state subsidies received by wind power. Then I discuss the production of wind power and the institutions of the electricity market. This is followed by a description of the data, model, and estimation method. In the final section, I present the results and determine the value of offset emissions before concluding.

**Solar power solves emissions**

**Damon Turney and Vasilis Fthenakis, 11**

National Photovoltaic Environmental Research Center, Brookhaven National Laboratory, Bldg. 130, 32 Lewis Rd, Upton, NY 11973, United States “Environmental impacts from the installation and operation of large-scale solarpower plants” <http://www.sciencedirect.com/science/article/pii/S1364032111001675>, accessed 8-1-12,WYO/JF

**We calculate the emissions of CO2 per kW h of delivered electricity. To accomplish this we assumed that the solar power plant operates for 30 years,** under insolation of 1700 kW h m−2 day−1, **with module conversion efficiency of 13%, a performance ratio of 80%,** a land to GWp ratio of 20 km2 per GWp, and a degradation rate of 0.5% per year in the module's performance. These numbers are typical for LCAs of CO2 emissions from solar power[[4]](http://www.sciencedirect.com/science/article/pii/S1364032111001675" \l "bib0020), and give ∼72 GW h km−2 yr−1 as time-averaged generation for the plant. Emissions of CO2from the remainder of the life cycle of solar power are 16–40 g CO2 kW h−1 for 1700 kW h m−2 yr−1 insolation[[4]](http://www.sciencedirect.com/science/article/pii/S1364032111001675#bib0020), [[6]](http://www.sciencedirect.com/science/article/pii/S1364032111001675#bib0030), [[7]](http://www.sciencedirect.com/science/article/pii/S1364032111001675#bib0035) and [[8]](http://www.sciencedirect.com/science/article/pii/S1364032111001675#bib0040), A description of the calculations of CO2 emissions per kW h is given in this paper's supplementary text. **The results**, which are summarized in [Table 4](http://www.sciencedirect.com/science/article/pii/S1364032111001675#tbl0020), **show the following**: (i) the avoidance of ∼650 g CO2 per kW h of delivered electricity (average U.S. power emissions from Kim and Dale [[95]](http://www.sciencedirect.com/science/article/pii/S1364032111001675#bib0475) and the DOE [[96]](http://www.sciencedirect.com/science/article/pii/S1364032111001675#bib0480)), (ii) the emission of between 0 and 36 g CO2 kW h−1 due to the initial removal of vegetation, iii) the emission of between 0 and 2 g CO2 kW h−1 during the 10 years following deforestation, (iv) the emission of between 0 and 9 CO2 kW h−1 due to the loss of the forest's natural sequestration, and (v) the emission of 16–40 g CO2 kW h−1 due to the life-cycle of the solar system excluding vegetation considerations. **The net emission results** in [Table 4](http://www.sciencedirect.com/science/article/pii/S1364032111001675#tbl0020) **shows that solar power is still a very low carbon alternative to traditional U.S.power generation. Methane and nitrous oxide are also important greenhouse gases released by coal power plants**. For comparison, the radiative forcing of CO2, methane, and nitrous oxide, respectively, are 1.7, 0.5, and 0.2 W m−2[[79]](http://www.sciencedirect.com/science/article/pii/S1364032111001675#bib0395), and fossil fuel combustion contributes 73%, 27%, and 8% of the respective amounts [[97]](http://www.sciencedirect.com/science/article/pii/S1364032111001675#bib0485). **Emissions of CH4 and NO2 from the life cycle of solar power in forests are likely to be much lower than from fossil fuels, suggesting another GHG benefit for switching electricity generation from fossil to solar power.**

**Studies prove these emissions are a primary cause of global warming**

**IPCC, 2007**

[Compiled by a working group of scientists studying climate change, Lenny Bernstein, Peter Bosch, Osvaldo Canziani, Zhenlin Chen, Renate Christ, Ogunlade Davidson, William Hare, Saleemul¶ Huq, David Karoly, Vladimir Kattsov, Zbigniew Kundzewicz, Jian Liu, Ulrike Lohmann, Martin Manning, Taroh Matsuno,¶ Bettina Menne, Bert Metz, Monirul Mirza, Neville Nicholls, Leonard Nurse, Rajendra Pachauri, Jean Palutikof, Martin¶ Parry, Dahe Qin, Nijavalli Ravindranath, Andy Reisinger, Jiawen Ren, Keywan Riahi, Cynthia Rosenzweig, Matilde¶ Rusticucci, Stephen Schneider, Youba Sokona, Susan Solomon, Peter Stott, Ronald Stouffer, Taishi Sugiyama, Rob Swart,¶ Dennis Tirpak, Coleen Vogel, Gary Yohe, “Climate change 2007: Synthesis report.” Online, http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4\_syr\_spm.pdf] /Wyo-MB

Changes in atmospheric concentrations of greenhouse¶ gases (GHGs) and aerosols, land cover and solar radiation alter the energy balance of the climate system. {2.2}¶ **Global GHG emissions due to human activities have¶ grown** since pre-industrial times, with an increase of¶ 70% between 1970 and 2004 (Figure SPM.3).¶ 5¶ {2.1}¶ Carbon dioxide (**CO2**¶ ) **is the most important anthropogenic**¶ **GHG**. Its annual emissions grew by about 80% between 1970¶ and 2004. The long-term trend of declining CO2¶ emissions¶ per unit of energy supplied reversed after 2000. {2.1}¶ **Global atmospheric concentrations of CO2**¶ , **methane**¶ (CH4¶ ) **and nitrous oxide** (N2¶ O) **have increased markedly¶ as a result of human activities** since 1750 and now far¶ exceed pre-industrial values determined from ice cores¶ spanning many thousands of years. {2.2}¶ Atmospheric concentrations of CO2¶ (379ppm) and CH4¶ (1774ppb) in 2005 exceed by far the natural range over the¶ last 650,000 years. **Global increases in CO2¶ concentrations¶ are due primarily to fossil fuel use**, with land-use change providing another significant but smaller contribution. It is very¶ likely that the observed **increase in CH4**¶ concentration **is predominantly** **due to** agriculture and **fossil fuel use**. CH4¶ growth¶ rates have declined since the early 1990s, consistent with total emissions (sum of anthropogenic and natural sources) being nearly constant during this period. The increase in N2¶ O¶ concentration is primarily due to agriculture. {2.2}¶ **There is very high confidence that the net effect of human¶ activities** since 1750 **has been one of warming**.¶ 6¶ {2.2}

**Solar power is key to end oil dependence and solve global warming**

**Ken Zweibel et al, 08**

Ken Zweibel, James Mason and Vasilis Fthenakis met a decade ago while working on life-cycle studies of photovoltaics. Zweibel is president of PrimeStar Solar in Golden, Colo., and for 15 years was manager of the National Renewable Energy Laboratory's Thin-Film PV Partnership. Mason is director of the Solar Energy Campaign and the Hydrogen Research Institute in Farmingdale, N.Y. Fthenakis is head of the Photovoltaic Environmental Research Center at Brook-haven National Laboratory and is a professor in and director of Columbia University's Center for Life Cycle Analysis. “A Solar Grand Plan”, <http://www.nature.com/scientificamerican/journal/v298/n1/full/scientificamerican0108-64.html>, accessed 7-31-12,WYO/JF

**By 2050 solar power could end U.S. dependence on foreign oil and slash greenhouse gas emissions** High prices for gasoline and home heating oil are here to stay. **The U.S. is at war in the Middle East** at least in part to protect its foreign oil interests. **And as China, India and other nations rapidly increase their demand for fossil fuels,** future fighting over energy looms large**. In the meantime, power plants that burn coal, oil and natural gas, as well as vehicles everywhere, continue to pour millions of tons of pollutants and greenhouse gases into the atmosphere annually, threatening the planet.** Well-meaning scientists, engineers, economists and politicians have proposed various steps that could slightly reduce fossil-fuel use and emissions. These steps are not enough. **The U.S. needs a bold plan to free itself from fossil fuels**. Our analysis convinces us that **a massive switch to solar power is the logical answer**. **Solar energy's potential is off the chart**. **The energy in sunlight striking the earth for 40 minutes is equivalent to global energy consumption for a year**. The U.S. is lucky to be endowed with a vast resource; at least 250,000 square miles of land in the Southwest alone are suitable for constructing solar power plants, and that land receives more than 4,500 quadrillion British thermal units (Btu) of solar radiation a year. Converting only 2.5 percent of that radiation into electricity would match the nation's total energy consumption in 2006.

**Wind power displaces fossil fuel generation**

**Cullen, 11**

Professor of economics at Harvard, is an economist who investigates the economics of energy and its implications for our environment. “Measuring the Environmental Benefits of Wind-Generated Electricity” <http://www.u.arizona.edu/~jcullen/Documents/measuringwind.pdf>, accessed 8-22-12,WYO/JF

Since **electricity produced by wind is emission-free**, the development of **wind power may reduce aggregate pollution by offsetting production from fossil-fuel generated electricity production**. When low marginal cost **wind-generated electricity enters the grid, higher marginal cost fossil fuel generators will reduce their output**. However, emission rates of fossil fuel generators vary greatly by the type and age of the generator. Thus, **the quantity of emissions offset by wind power will depend crucially on which generators reduce their output.** To date, no studies have attempted to empirically measure the environmental contribution of wind power resulting from these production offsets.

**Transition from fossil fuels is key to solve warming, even if it increases construction emissions in the short term, wind and solar solve in the long term**

**Myhrvold and Caldeira, 2012**

[NP, member of intellectual ventures, and K, Dept. of Global Ecology Carnegie institute, “Greenhouse gases, climate change and the transition from coal to low-carbon electricity.” 2012 Environ. Res. Lett. 7 014019, Online, http://ftpcontent.worldnow.com/wowk/Carnegiestudy.pdf] /Wyo-MB

**A transition** from the global system of coal-based electricity generation **to¶ low-greenhouse-gas-emission energy technologies is required to mitigate climate change in¶ the long term**. **The use of current infrastructure to build this new low-emission system¶ necessitates additional emissions of greenhouse gases, and the coal-based infrastructure will¶ continue to emit substantial amounts of greenhouse gases as it is phased out**. Furthermore,¶ ocean thermal inertia delays the climate beneﬁts of emissions reductions. By constructing a¶ quantitative model of energy system transitions that includes life-cycle emissions and the¶ central physics of greenhouse warming, we estimate the global warming expected to occur as¶ a result of build-outs of new energy technologies ranging from 100 GWe to 10 TWe in size¶ and 1–100 yr in duration. We **show that rapid deployment of low-emission energy systems can¶ do little to diminish the climate impacts in the ﬁrst half of this century**. Conservation, **wind,¶ solar**, nuclear **power**, and possibly carbon capture and storage **appear to be able to achieve¶ substantial climate beneﬁts in the second half of this century**; however, natural gas cannot.

**U.S. leadership is key to solve for global ghg’s and warming, lead to massive amount of modeling, and decrease use of oil**

**NREL, 08**

is a national laboratory of the U. S. Department of Energy, “Strengthening U.S. Leadership of International Clean Energy Cooperation “,<http://www.nrel.gov/international/pdfs/44261.pdf>, accessed 9-2-12,WYO/JF

Greenhouse Gas Impacts **The primary environmental benefit of the U.S.-led global clean energy market transformation will be reduced greenhouse gas emissions of 50-80% by 2050, which scientists think will prevent catastrophic climate change impacts—a large benefit to the U.S. and the global community**. **Clean energy tech**nologies **will provide more than half of the reductions needed to achieve that goal** (Figure 3) Other Environmental Benefits Significant local air quality and other environmental benefits will accompany the reductions in greenhouse gas emissions. **Reduced air emissions translate to improved health, lower health care costs, improved visibility, and reduced impacts on natural ecosystems**. **Increased use of clean energy also will reduce impacts from fossil fuel extraction and processing.** Increased access to clean energy in the poorest regions of the world will reduce the use of firewood, enabling cleaner indoor air quality and contributing to local sustainable development. Energy Security Benefits In addition to the decreased oil prices mentioned above, international clean energy market transformation will reduce global vulnerability to supply and price shocks, and could also decrease tensions over petroleum resources in key supply regions and U.S. costs of military intervention to help address conflicts that arise. **Reductions in U.S. demand for oil, which will be enabled by accelerated cost reductions for biofuels and transportation efficiency technologies through international cooperation, also will decrease U.S. vulnerability**. Impacts on Development **The clean energy market transformation will accelerate global economic growth and stability by enhancing access to clean energy in rural and urban areas worldwide**. More than 1 billion people around the world do not have modern energy services. **Providing access to clean energy will provide the power necessary for micro-enterprises, health clinics, schools, water supply, enhanced agricultural production, and similar services. U.S. leadership in this area will enhance diplomatic influence and help achieve U.S. and global sustainable development objectives, including universal access to modern energy services around the world by 2020, which is consistent with the Millennium Development Goals.**

**Studies show warming is human caused and will cause extinction**

**Ahmed 2010**

(Nafeez Ahmed, Executive Director of the Institute for Policy Research and Development, professor of International Relations and globalization at Brunel University and the University of Sussex, Spring/Summer 2010, “Globalizing Insecurity: The Convergence of Interdependent Ecological, Energy, and Economic Crises,” Spotlight on Security, Volume 5, Issue 2, online)

Perhaps **the most notorious indicator is anthropogenic global warming**. **The landmark** 2007 Fourth **Assessment** Report of the UN Intergovernmental Panel **on Climate Change** (IPCC) – which **warned that at then-current rates of increase of fossil fuel emissions, the earth’s global average temperature would likely rise by 6°C by the end of the 21st century** creating a largely uninhabitable planet – was a wake-up call to the international community.[v] **Despite the pretensions of ‘climate sceptics,’ the peer-reviewed scientific literature has continued to produce evidence that the IPCC’s original scenarios were wrong – not because they were too alarmist**, but on the contrary, **because they were far too conservative**. According to a paper in the Proceedings of the National Academy of Sciences, **current CO2 emissions are worse than all six scenarios contemplated by the IPCC. This implies that the IPCC’s worst-case six-degree scenario severely underestimates the most probable climate trajectory** under current rates of emissions.[vi] It is often presumed that a 2°C rise in global average temperatures under an atmospheric concentration of greenhouse gasses at 400 parts per million (ppm) constitutes a safe upper limit – **beyond which further global warming could trigger rapid and abrupt climate changes that, in turn, could tip the whole earth climate system into a process of irreversible, runaway warming.[**vii] Unfortunately, we are already well past this limit, with the level of greenhouse gasses as of mid-2005 constituting 445 ppm.[viii] Worse still, cutting-edge scientific data suggests that the safe upper limit is in fact far lower**. James Hansen**, director of the NASA Goddard Institute for Space Studies, **argues that the absolute upper limit for CO2 emissions is 350 ppm: “If the present overshoot of this target CO2 is not brief, there is a possibility of seeding irreversible catastrophic effects.**”[ix] A wealth of **scientific studies** has **attempted to explor**e the role of **positive-feedback mechanisms between different climate sub-systems**, the operation of which could intensify the warming process. **Emissions beyond 350 ppm over decades are likely to lead to the total loss of Arctic sea-ice** in the summer **triggering magnified absorption** of sun radiation, **accelerating warming**; the melting of Arctic permafrost triggering **massive methane injections** into the atmosphere, accelerating warming; the **loss of half the Amazon rainfores**t triggering the momentous release of billions of tonnes of stored carbon, accelerating warming; and **increased microbial activity in the earth’s soi**l leading to further huge releases of stored carbon, accelerating warming; to name just a few. **Each of these feedback sub-systems alone is sufficient by itself to lead to irreversible, catastrophic effects that could tip the whole earth climate system over the edge**.[x] Recent studies now estimate that the **continuation of business-as-usual would lead to global warming of three to four degrees Celsius before 2060 with multiple irreversible, catastrophic impacts; and six, even as high as eight, degrees by the end of the century – a situation endangering the survival of all life on earth.[**xi]

**Try or die- the environment is at the tipping point- Collapse will be fast and catastrophic**

**AFP, 12**

(Agence France-Presse, citing UN study, “Environmental collapse now a serious threat: scientists,” Raw Story, http://www.rawstory.com/rs/2012/06/06/environmental-collapse-now-a-serious-threat-scientists/)

**The paper by 22 top researchers said a “tipping point” by which the biosphere goes into swift and irreversible change**, **with** potentially **cataclysmic impacts for humans, could occur as early as this century.**¶ The warning contrasts with a mainstream view among scientists that environmental collapse would be gradual and take centuries.¶ **The study appears ahead of the June 20-22 UN Conference on Sustainable Development,** the 20-year followup to the Earth Summit that set down priorities for protecting the environment.¶ The Nature paper, written by biologists, ecologists, geologists and palaeontologists from three continents, compared the biological impact of past episodes of global change with what is happening today.¶ **The factors in today’s equation include a world population that is set to rise from seven billion to around 9.3 billion by mid-century and global warming that will outstrip the UN target of two degrees Celsius** (3.6 degrees Fahrenheit).¶ **The team determined that once 50-90 percent of small-scale ecosystems become altered, the entire eco-web tips over into a new state, characterised especially by species extinction**s.¶ **Once the shift happens, it cannot be reversed.**¶ To support today’s population, about 43 percent of Earth’s ice-free land surface is being used for farming or habitation, according to the study.

**MLPs solve renewables and green house gas emissions and stable energy generation**

**Congressional Documents and Publications, 6-7-12**

[US senate documents news release, “Senators Coons, Moran introduce bill to spark investment in renewable energy projects: Sen. Christopher A. Coons (D-DE) News Release.” Accessed online via proquest] /Wyo-MB

Josh Freed, vice president for clean energy, Third Way: "There are **2.3 trillion** reasons the United States should grow our domestic clean energy market. That's **the potential size of the global clean energy market. We can win a huge share of it if our national energy policies put clean and fossil technologies on a level playing field and we get more private investment into the clean energy market.** That's why Third Way proposed **expanding Master Limited Partnerships**, which help finance oil and natural gas development, **to include wind, solar, and other clean energy projects**. This **is a commonsense idea that will give mature clean technologies access to the cheap, private capital they need to get built**. We're thrilled Senator Chris Coons, an honorary co-chair of Third Way, and Senator Jerry Moran are taking the lead to build a bipartisan consensus on this issue that will help clean energy, the economy, and the country."¶ Rhone Resch, president and CEO, Solar Energy Industries Association: "This bill is an excellent step toward **leveling the playing field between renewable and incumbent energy sources by providing the solar industry with private capital in the same manner enjoyed by the oil and gas industry.** The solar industry employs 100,000 Americans, costs for consumers are dropping nationwide and solar deployment grew by 109% last year. Senator Coons' MLP proposal would build on this success, and SEIA applauds him for putting forward an idea that has the potential to attract additional private sector investment in solar projects. We look forward to working with Senator Coons and other stakeholders to **use smart policy to add market liquidity for renewable energy projects and to efficiently utilize tax incentives**." Bob Cleaves, president, Biomass Power Association: "The Biomass Power Association lauds Senator Coons for taking the lead on this very important issue. His legislation, which harmonizes the Internal Revenue Code **to make Master Limited Partnership arrangements available to renewable electricity developers, simplifies the tax laws and moves away from picking energy winners and losers**. **By obtaining easier access to capital, renewable energy facility developers will be able to replace fossil fuels, reduce greenhouse gases, and secure the electrical grid with stable, baseload power."**

## 1AC Economy Adv

#### Economic collapse coming now – manufacturing and investment are weak, and failure to resolve creates a sustained recession

Peter Morici, 12

economist and professor at the University of Maryland's Smith School of Business, “The coming economic collapse and what can – and cannot – be done”, http://articles.sun-sentinel.com/2012-07-26/news/fl-pmcol-economics-fri0727-20120726\_1\_wall-street-banks-export-driven-growth-tax-cuts, 8-16-12,WYO/JF

The U.S. economy is teetering on the brink of another recession. The bad news is that, if it goes down again, policymakers won't have many options, and like a weary heavyweight, if it hits the mat again, it's down for good.¶ The recovery has been terribly disappointing; growth is hardly at 2 percent, and unemployment hangs above 8 percent.¶ Manufacturing and exports powered the expansion but are now weakening. Consumer spending and existing home sales are flagging, because policymakers failed to aid underwater homeowners as generously as the banks.¶ President Obama is doubling down on slow-growth policies: new restrictions on offshore oil and CO2 emissions, and financial regulations that haven't stopped Wall Street banks from trading recklessly and rigging markets.¶ Gov. Romney has reverted to shop-worn Republican prescriptions: tax cuts, free trade and deregulation.¶ With the federal government spending 50 percent more than it takes in, no competent economist could endorse big rate cuts, beyond renewing the Bush tax cuts.¶ China, by manipulating its currency and shutting out western products, helped cause the Great Recession and is now constraining recovery in the United States and Europe. More free trade agreements won't fix that.¶ Dodd-Frank may be bureaucratic and ineffective, but no sane person could claim banks can regulate themselves. Smarter solutions, such as breaking up unmanageable institutions, are needed.¶ Many analysts ask if another big innovation, such as the automobile or computer, could save the economy. The problem is that many new products are creating more jobs in Asia than in the West, and many technology companies are consolidating or facing extinction (consider the smart phone, Hewlett Packard and Yahoo).¶ A lot of U.S. innovation is starting to look more like French art than American commerce. Yahoo, Facebook and Twitter made great contributions to the economy and culture but simply don't have business models that generate enough revenue and jobs.¶ Google succeeded by cannibalizing newspapers – the net effect has been to destroy more – and branching into software and media, which displaces workers elsewhere.¶ The profitable core of finance, investment banking, is shrinking. Burdensome regulations are a problem, but many clients – ranging from municipalities to wealth managers to foreign governments burned by Wall Street schemes – are now less interested in what Goldman Sachs and others peddle.¶ To save European governments, several trillions of dollars in sovereign debt must be written down. Beyond lacking a plan to equitably distribute the loss, Germany and other stronger states have not accepted that they cannot continue to pursue export-driven growth strategies and import more if southern Europe is to recover.¶ China's policies hold itself and the West hostage. Europe and the United States can't keep printing and borrowing ever more money to sustain their export-driven growth strategy.¶ China must slow down, because it is too late to reorient its economy toward domestic consumption without wrenching dislocations.¶ When the United States entered the recent crisis, its budget deficit was $161 billion. Now it is $1.3 trillion, and the Federal Reserve is already maintaining rock-bottom interest rates.¶ Even if Congress and the president extend the Bush tax cuts, any hiccup in Europe or China could throw the U.S. economy into a recession, and the world's biggest economy could hit the skids on its own.¶ Capital markets simply won't be able to absorb a $2.5 to $3 trillion federal deficit to further stimulate the U.S. economy, without sucking badly needed funds from struggling European and developing-country economies. The Fed could only print money to finance it and set off hyperinflation, but it can't lower interest rates much further.

#### MLPs only way to solve for renewables and the economy

DiMugno 12

(Laura, editor, writer and journalist work has spanned areas including energy, the environment, travel, and technology, North American Wind Power, “UPDATED: New Legislation Could Unlock Billions Of Dollars In Wind Energy Investment,” June 7, 2012, <http://www.nawindpower.com/e107_plugins/content/content.php?content.9961//wyo-mm>)

Opening up an investment vehicle long used in fossil-fuel markets to renewable energy resources could unlock billions of dollars in wind energy investment, according to a new report released by the Maguire Energy Institute at Southern Methodist University. According to the study, federal tax-code restrictions currently limit investment in renewable energy infrastructure by $5 billion to $6 billion while, at the same time, prohibiting thousands of jobs from being created. If the federal production tax credit for wind energy is not renewed beyond the end of this year, up to $15 billion in private investment could disappear. Absent support for renewables at the federal level, the market will have to find other ways to keep the industry afloat and the capital flowing. One way to secure that investment could be through master limited partnerships (MLPs), in which regular investors are allowed to purchase shares in publicly traded partnerships just like stock shares. MLPs have been a key investment tool in the oil and gas industries since the 1980s, but they are not currently available to renewables such as wind power. MLPs have been quite successful in the energy sector, and as a result, their use has increased dramatically over the past couple of decades. According to the report, in 1996, there were just 12 MLPs, with a market capitalization of about $8 billion. By 2011, those numbers had grown to 75 MLPs representing over $270 billion in market capitalization. Eighty percent of MLPs are in the energy sector, according to the report, but renewables are currently excluded. The study’s authors used financial modeling to expand the MLP structure to include renewable energy, and the results were astounding: Opening up MLPs to renewables could lead to an additional $3.2 billion to $5.6 billion in investment between now and 2021, they said, noting that the specific number would depend on economic and market conditions. According to the report, MLPs are a strong fit for renewable energy investments because power purchase agreements for wind and solar projects are generally long-term contracts that offer cashflow stability.

#### Clean energy transition to wind and solar is key to the US economy solves jobs and manufacturing—

The Ledger, 2009

[Published by the NYT, 9-26-2009, “Rebuild U.S. Industrial Base by Promoting a Clean Energy Economy.” The Ledger [Lakeland, Fla] 26 Sep 2009] /Wyo-MB

One of the biggest problems we have in America today is that our industrial base was outsourced overseas many years ago. Without this base there are fewer jobs and there is less money in the pockets of American workers. Another serious problem is the (mis)management of our natural resources and the planet, in general. This is the bad news.¶ However, the good news is that there is a way to combine these two negatives and come up with a very strong positive, and that solution is to transition to a clean energy economy. This would provide an immediate manufacturing and job base that could not be outsourced (1.7 million jobs) and generate a much needed positive cash flow for American workers.¶ Investing $8.1 billion in Florida's clean energy economy will create 95,000 jobs in the state alone. A clean energy economy would mean new manufacturing jobs (building wind turbines and solar panels) and new construction and retrofitting jobs for our housing and auto industry (making plug-in hybrid and electric cars).¶ Transitioning to a clean energy economy is an insurance policy and a key move toward responsible management of the planet and her resources while re-establishing our nation's manufacturing base which will ensure long-term job security and financial prosperity for American workers.¶ President Barack Obama recently said, "The nation that leads in the creation of a clean energy economy will be the nation that leads the 21st century's global economy."¶ We can't afford to stand idly by while others lead the way. It's time we created jobs here in America, for Americans. It's time to Repower America.

#### Manufacturing is key to the US economy

Ettlinger and Gordon, 2011

[Michael Ettlinger is the Vice President for Economic Policy and Kate Gordon is the Vice President for Energy Policy at the Center for American Progress, “The Importance and Promise of American Manufacturing.” 4-7-2011, Online, http://www.americanprogress.org/issues/labor/report/2011/04/07/9427/the-importance-and-promise-of-american-manufacturing/] /Wyo-MB

Manufacturing is critically important to the American economy. For generations, the strength of our country rested on the power of our factory floors—both the machines and the men and women who worked them. We need manufacturing to continue to be a bedrock of strength for generations to come. Manufacturing is woven into the structure of our economy: Its importance goes far beyond what happens behind the factory gates. The strength or weakness of American manufacturing carries implications for the entire economy, our national security, and the well-being of all Americans.

#### Manufacturing Jobs are key to US technological leadership and economic competitiveness

Ettlinger and Gordon, 2011

[Michael Ettlinger is the Vice President for Economic Policy and Kate Gordon is the Vice President for Energy Policy at the Center for American Progress, “The Importance and Promise of American Manufacturing.” 4-7-2011, Online, http://www.americanprogress.org/issues/labor/report/2011/04/07/9427/the-importance-and-promise-of-american-manufacturing/] /Wyo-MB

First, jobs in the manufacturing sector are good middle-class jobs for millions of Americans. Those jobs serve an important role, offering economic opportunity to hard-working, middle-skill workers. This creates upward mobility and broadens and strengthens the middle class to the benefit of the entire economy.¶ What’s more, U.S.-based manufacturing underpins a broad range of jobs that are quite different from the usual image of manufacturing. These are higher-skill service jobs that include the accountants, bankers, and lawyers that are associated with any industry, as well as a broad range of other jobs including basic research and technology development, product and process engineering and design, operations and maintenance, transportation, testing, and lab work.¶ Many of these jobs are critical to American technology and innovation leadership. The problem today is this: Many multinational corporations may for a period keep these higher-skill jobs here at home while they move basic manufacturing elsewhere in response to other countries’ subsidies, the search for cheaper labor costs, and the desire for more direct access to overseas markets, but eventually many of these service jobs will follow. When the basic manufacturing leaves, the feedback loop from the manufacturing floor to the rest of a manufacturing operation—a critical element in the innovative process—is eventually broken. To maintain that feedback loop, companies need to move higher-skill jobs to where they do their manufacturing.¶ And with those jobs goes American leadership in technology and innovation. This is why having a critical mass of both manufacturing and associated service jobs in the United States matters. The “industrial commons” that comes from the crossfertilization and engagement of a community of experts in industry, academia, and government is vital to our nation’s economic competitiveness.

**The US is key to the global recovery**

**Caploe ‘09**

(David, PhD in International political economy from Princeton, “Focus still on America to lead global recovery,” The Straits Times, 8/2/12)

IN THE aftermath of the G-20 summit, most observers seem to have missed perhaps the most crucial statement of the entire event, made by United States President Barack Obama at his pre-conference meeting with British Prime Minister Gordon Brown: **'The world has become accustomed to the US being a voracious consumer market, the engine that drives a lot of economic growth worldwide,' he said. 'If there is going to be renewed growth, it just can't be the US as the engine**.' While superficially sensible, this view is deeply problematic. **To begin with, it ignores the fact that the global economy has in fact been 'America-centred' for more than 60 years. Countries - China, Japan, Canada, Brazil, Korea, Mexico and so on - either sell to the US or they sell to countries that sell to the US**. This system has generally been advantageous for all concerned. **America gained certain historically unprecedented benefits, but the system also enabled participating countries - first in Western Europe and Japan, and later, many in the Third World - to achieve undreamt-of prosperity. At the same time, this deep inter-connection between the US and the rest of the world also explains how the collapse of a relatively small sector of the US economy - 'sub-prime' housing, logarithmically exponentialised by Wall Street's ingenious chicanery - has cascaded into the worst global economic crisis since the Great Depression**. To put it simply, Mr Obama doesn't seem to understand that there is no other engine for the world economy - and hasn't been for the last six decades. If the US does not drive global economic growth, growth is not going to happen. Thus, US policies to deal with the current crisis are critical not just domestically, but also to the entire world. Consequently, it is a matter of global concern that the Obama administration seems to be following Japan's 'model' from the 1990s: allowing major banks to avoid declaring massive losses openly and transparently, and so perpetuating 'zombie' banks - technically alive but in reality dead. As analysts like Nobel laureates Joseph Stiglitz and Paul Krugman have pointed out, the administration's unwillingness to confront US banks is the main reason why they are continuing their increasingly inexplicable credit freeze, thus ravaging the American and global economies. Team Obama seems reluctant to acknowledge the extent to which its policies at home are failing not just there but around the world as well. Which raises the question: **If the US can't or won't or doesn't want to be the global economic engine, which country will? The obvious answer is China. But that is unrealistic for three reasons. First, China's economic health is more tied to America's than practically any other country in the world. Indeed, the reason China has so many dollars to invest everywhere - whether in US Treasury bonds or in Africa - is precisely that it has structured its own economy to complement America's**. The only way China can serve as the engine of the global economy is if the US starts pulling it first. Second, the US-centred system began at a time when its domestic demand far outstripped that of the rest of the world. The fundamental source of its economic power is its ability to act as the global consumer of last resort. **China, however, is a poor country, with low per capita income, even though it will soon pass Japan as the world's second largest economy**. There are real possibilities for growth in China's domestic demand. But given its structure as an export-oriented economy, it is doubtful if even a successful Chinese stimulus plan can pull the rest of the world along unless and until China can start selling again to the US on a massive scale. **Finally, the key 'system' issue for China - or for the European Union - in thinking about becoming the engine of the world economy - is monetar**y: What are the implications of having your domestic currency become the global reserve currency? This is an extremely complex issue that the US has struggled with, not always successfully, from 1959 to the present. **Without going into detail, it can safely be said that though having the US dollar as the world's medium of exchange has given the US some tremendous advantages, it has also created huge problems, both for America and the global economic system**. The Chinese leadership is certainly familiar with this history. It will try to avoid the yuan becoming an international medium of exchange until it feels much more confident in its ability to handle the manifold currency problems that the US has grappled with for decades. **Given all this, the US will remain the engine of global economic recovery for the foreseeable future, even though other countries must certainly help. This crisis began**

#### Growth solves global wars—multiple reasons

Royal, 10

Jedediah Royal, Director of Cooperative Threat Reduction at the U.S. Department of Defense 2010, Economic Integration, Economic Signaling and the Problem of Economic Crises, in Economics of War and Peace: Economic, Legal and Political Perspectives, ed. Goldsmith and Brauer, 2010. p. 213-215

Less intuitive is how periods of economic decline may increase the likelihood of external conflict. Political science literature has contributed a moderate degree of attention to the impact of economic decline and the security and defence behaviour of interdependent stales. Research in this vein has been considered at systemic, dyadic and national levels. Several notable contributions follow. First, on the systemic level. Pollins (20081 advances Modclski and Thompson's (1996) work on leadership cycle theory, finding that rhythms in the global economy are associated with the rise and fall of a pre-eminent power and the often bloody transition from one pre-eminent leader to the next. As such, exogenous shocks such as economic crises could usher in a redistribution of relative power (see also Gilpin. 19SJ) that leads to uncertainty about power balances, increasing the risk of miscalculation (Fcaron. 1995). Alternatively, even a relatively certain redistribution of power could lead to a permissive environment for conflict as a rising power may seek to challenge a declining power (Werner. 1999). Separately. Pollins (1996) also shows that global economic cycles combined with parallel leadership cycles impact the likelihood of conflict among major, medium and small powers, although he suggests that the causes and connections between global economic conditions and security conditions remain unknown. Second, on a dyadic level. Copeland's (1996. 2000) theory of trade expectations suggests that 'future expectation of trade' is a significant variable in understanding economic conditions and security behaviour of states. He argues that interdependent states arc likely to gain pacific benefits from trade so long as they have an optimistic view of future trade relations. However, if the expectations of future trade decline, particularly for difficult to replace items such as energy resources, the likelihood for conflict increases, as states will be inclined to use force to gain access to those resources. Crises could potentially be the trigger for decreased trade expectations either on its own or because it triggers protectionist moves by interdependent states.4 Third, others have considered the link between economic decline and external armed conflict at a national level. Mom berg and Hess (2002) find a strong correlation between internal conflict and external conflict, particularly during periods of economic downturn. They write. The linkage, between internal and external conflict and prosperity are strong and mutually reinforcing. Economic conflict lends to spawn internal conflict, which in turn returns the favour. Moreover, the presence of a recession tends to amplify the extent to which international and external conflicts self-reinforce each other (Hlomhen? & Hess. 2(102. p. X9> Economic decline has also been linked with an increase in the likelihood of terrorism (Blombcrg. Hess. & Wee ra pan a, 2004). which has the capacity to spill across borders and lead to external tensions. Furthermore, crises generally reduce the popularity of a sitting government. "Diversionary theory" suggests that, when facing unpopularity arising from economic decline, sitting governments have increased incentives to fabricate external military conflicts to create a 'rally around the flag' effect. Wang (1996), DcRoucn (1995), and Blombcrg. Hess, and Thacker (2006) find supporting evidence showing that economic decline and use of force arc at least indirecti) correlated. Gelpi (1997). Miller (1999). and Kisangani and Pickering (2009) suggest that Ihe tendency towards diversionary tactics arc greater for democratic states than autocratic states, due to the fact that democratic leaders are generally more susceptible to being removed from office due to lack of domestic support. DeRouen (2000) has provided evidence showing that periods of weak economic performance in the United States, and thus weak Presidential popularity, are statistically linked lo an increase in the use of force. In summary, rcccni economic scholarship positively correlates economic integration with an increase in the frequency of economic crises, whereas political science scholarship links economic decline with external conflict al systemic, dyadic and national levels.' This implied connection between integration, crises and armed conflict has not featured prominently in the economic-security debate and deserves more attention.

#### MLPs solve job creation, and investment, which bolsters the economy

Congressional Documents and Publications, 6-7-12

[US senate documents news release, “Senators Coons, Moran introduce bill to spark investment in renewable energy projects: Sen. Christopher A. Coons (D-DE) News Release.” Accessed online via proquest] /Wyo-MB

Doug Sims, Natural Resources Defense Council: "NRDC strongly endorses the MLP Parity Act. The tax code currently enables the well-established fossil fuel industry to have this financing advantage while denying its use for the newer, cleaner forms of energy that Americans want and need to encourage. That makes no sense. Master Limited Partnerships should be one of the tools available to develop clean, renewable energy. MLPs provide a low risk way for Main Street to invest in renewable energy. This will create jobs and new investment opportunities while reducing pollution. Sen. Coons is right to propose this forward-looking and fair-minded step to ensure that the today's clean, domestic energy sources have the same opportunities to succeed as the fossil fuel sources of the past."¶ Denise Bode, CEO, American Wind Energy Association: "We commend Senator Coons for his leadership in promoting the eligibility of master limited partnerships (MLPs) to include renewable energy projects. America's wind energy sector is a success story that has proven its strength by recruiting $15.5 billion in annual investment in America's energy infrastructure in recent years despite short-lived policy certainty. MLPs work well for conventional energy infrastructure and will work best to spur more renewable energy investment and job creation if structured properly to match renewable tax incentives. We look forward to working with Senator Coons to enable wind power developers to efficiently utilize MLP structures."¶ Judith Albert, executive director, Environmental Entrepreneurs: "The members of Environmental Entrepreneurs are supportive of Sen. Coons' MLP Parity Act. This bill would allow renewable energy companies access to a financing structure - Master Limited Partnerships - that has long been available to the fossil fuel industry. Access to this structure will expand the sources of private capital that renewable energy companies can tap and reduce the cost of financing new, job-creating projects. If passed, this important measure would be a significant step toward continued development of clean, renewable energy."