# China DA

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#### China’s leading clean tech development now---it’s zero-sum---key to Chinese growth, CCP stability, soft power, and warming

McMahon 13 Tamsin is a reporter for the National Post. “How China is going to save the world,” 1/27, http://www2.macleans.ca/2013/01/27/business/

China’s ongoing struggles with pollution have been a blight on the country’s international reputation. The world’s image of China is that of an industrial behemoth fuelled by the dirtiest of energies, coal. On the surface, the reputation is well deserved. No country pumps out as much CO2 as China (not even the U.S. comes close). But behind the smog, China’s environmental woes have become an unexpected boon to the global renewable energy industry. Last week’s air quality emergency sent Chinese green energy stocks soaring on the hope that the political fallout will prompt the Communist party to offer up more public money for the country’s burgeoning environmental protection sector.¶ Investors are counting on it. Even as it remains the scourge of environmentalists for being the largest emitter on the planet, **China is** also **emerging as the world’s biggest spender on green energy.**¶ Globally, green energy investment fell 11 per cent last year, according to a recent Bloomberg New Energy Finance report. Indebted European countries slashed subsidies, India cut its spending by more than 40 per cent and the U.S. witnessed a string of solar power manufacturer bankruptcies. China’s investment in renewable energy, meanwhile, was a bright spot. It rose 20 per cent to nearly $68 billion, or a full quarter of the $269 billion global total.¶ From having virtually no green energy infrastructure as recently as 2008, China has built 133 gigawatts of renewable energy—mainly wind turbines—enough to power as many as 53 million homes, or every household in Canada four times over. The International Energy Agency predicted that China would overtake Europe as the world’s top renewable energy growth market. It’s a market expected to be worth more than $470 billion by 2015, according to state-owned China Merchants Securities, or almost double what it was in 2009 and equal to about eight per cent of the country’s GDP.¶ That investment has caught the eye of **clean-tech companies in** Europe and **North America**, who **are flocking to China** in hopes of selling their technologies **after seeing demand stagnate or collapse in their home markets.** “All the key players are going to China these days,” says Changhua Wu, Greater China director of the Climate Group, a London-based agency that promotes green energy investment. “Everyone is trying to figure out what the potential for opportunity is, partly because everyone recognizes that China could potentially be the largest market for clean tech in the world.”¶ As China takes the lead, everyone will benefit from the technology that is developed and exported. China is saving itself, but might also be saving the world in the process.¶ While the Middle Kingdom’s smog problems have earned plenty of headlines, it has also been quietly attracting a host of very unlikely supporters, including praise from the Pew Charitable Trust and the World Wildlife Foundation, which gave its “climate solver” award this year to several Chinese companies that manufacture technology to capture and recycle wasted heat, water and chemical emissions to power everything from factories to refrigerators. Greenpeace predicted the country would be on track to install 400 gigawatts of wind energy by 2030 and could become the largest solar market in the world.¶ The argument that China is the world’s environmental bad guy “is increasingly difficult, if not impossible, to make given China’s recent policies,” wrote the authors of an October report for the Climate Institute, an Australian think tank. The country has closed more coal-fired power plants since 2006 than the entire capacity of Australia’s electrical grid, and exported more than $35-billion worth of renewable energy technology—equal to the total value of shoes exported from China that year. This year, China is rolling out pilot projects that could eventually lead to the world’s largest carbon trading system.¶ “The broad scheme of things is that China believes it wants to become a resource-conserving, environmentally friendly society and that’s the way they describe it, in those exact words,” says Arthur Hanson, one of Canada’s leading experts on sustainable development. The former founding director of Dalhousie University’s School for Resource and Environmental Studies, Hanson is in Beijing this week in his role as international chief adviser to the China Council for International Co-operation on Environment and Development.¶ Granted, China has **little choice but to invest in renewables** as it seeks out more sources of energy to help power its rapidly developing economy, with GDP growth expected just shy of eight per cent this year and an urban population rising by an estimated 2.3 per cent a year. **Green energy is** also **seen as a political tool for the Chinese government that can** quell rising environmental protests and appease political dissent. “The leadership in China is really recognizing that **in order to manage and govern the country better you need to find a universal underlying theme to make sure everyone is with you,”** says Wu. “**Green growth or sustainable development happens to be the only one.”¶** But beyond the obvious political and economic advantages of green energy, China is also pinning its hopes on the belief that demand for clean technology will enable the country to transform both its domestic economy and its exports.¶ Until now, China’s green energy sector has largely done what the country does best: import technology developed elsewhere, reproduce it for less money and then export it back to the West. That’s changing as China pours billions into research and development and advanced education in hopes that clean tech can help shift China from being merely the low-cost factory of the world to being a global leader in developing innovative technology.¶ China’s current five-year plan, which runs through 2015, includes an economic development blueprint that will see more than $1.5 trillion invested in seven industries, all of them related in some way to environmental protection and renewable energy technology.

#### China’s economic rise prevents CCP instability and lashout --- decline tubes the global economy, US primacy, and Sino relations

Mead 9 Walter Russell Mead, Henry A. Kissinger Senior Fellow in U.S. Foreign Policy at the Council on Foreign Relations, “Only Makes You Stronger,” The New Republic, 2/4/9, http://www.tnr.com/story\_print.html?id=571cbbb9-2887-4d81-8542-92e83915f5f8

The greatest danger both to U.S.-China relations and to American power itself is probably not that China will rise too far, too fast; it is that the current crisis might end China's growth miracle. In the worst-case scenario, the turmoil in the international economy will plunge China into a major economic downturn. The Chinese financial system will implode as loans to both state and private enterprises go bad. Millions or even tens of millions of Chinese will be unemployed in a country without an effective social safety net. The collapse of asset bubbles in the stock and property markets will wipe out the savings of a generation of the Chinese middle class. The political consequences could include dangerous unrest--and a bitter climate of anti-foreign feeling that blames others for China's woes. (Think of Weimar Germany, when both Nazi and communist politicians blamed the West for Germany's economic travails.) Worse, instability could lead to a vicious cycle, as nervous investors moved their money out of the country, further slowing growth and, in turn, fomenting ever-greater bitterness. Thanks to a generation of rapid economic growth, China has so far been able to manage the stresses and conflicts of modernization and change; nobody knows what will happen if the growth stops.

#### CCP instability causes extinction

Yee and Storey 2 Herbert is a Professor of Politics and IR @ Hong Kong Baptist University, and Ian is a Lecturer in Defence Studies @ Deakin University. “The China Threat: Perceptions, Myths and Reality,” p. 5

The fourth factor contributing to the perception of a China threat is the fear of political and economic collapse in the PRC, resulting in territorial fragmentation, civil war and waves of refugees pouring into neighbouring countries. Naturally, any or all of these scenarios would have a **profoundly negative impact on regional stability.** Today the Chinese leadership faces a raft of internal problems, including the increasing political demands of its citizens, a growing population, a shortage of natural resources and a deterioration in the natural environment caused by rapid industrialization and pollution. These problems are putting a strain on the central government’s ability to govern effectively. Political disintegration or a Chinese civil war might result in millions of Chinese refugees seeking asylum in neighbouring countries. Such an unprecedented exodus of refugees from a collapsed PRC would no doubt put a severe strain on the limited resources of China’s neighbours. A fragmented China could also result in another nightmare scenario- nuclear weapons falling into the hands of irresponsible local provincial leaders or warlords. From this perspective, **a disintegrating China would** also **pose a threat to its neighbours and** the world.

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### UQ Wall

#### China’s leading clean tech development now --- it’s effective – that’s McMahon – prefer our evidence – their Green card supports our DA – it says China clean tech will only fail if the US neglects wind and solar development – the plan reverses that and removes the capability for China to control clean tech market share

#### Uniqueness should frame the direction of the link – it’s a yes/no question since it’s descriptive of the squo and trends toward Chinese leadership whereas the link is more speculative based on modeling and innovation predictions

#### China’s #1 in clean tech---best index proves

PlanetSave, citing Ernst & Young, 12 “China Continues to Dominate Global Renewable Energy Market,” 9/11, http://planetsave.com/2012/09/11/china-continues-to-dominate-global-renewable-energy-market/

Ernst & Young released late August their quarterly global Renewable Energy Country Attractiveness Indices report which showed that **China is set to continue it[s] domination of the global renewable energy market**, as US elections and political support in Europe prevent other countries from keeping up.¶ The Ernst & Young report “provide scores in 40 countries for national renewable energy markets, renewable energy infrastructures and their suitability for individual technologies.”¶ The second quarter of 2012 saw China remain **at the top of the All Renewable Index (ARI),** with the U.S. dropping 1.5 points to share second place with Germany. The rest of the top five were filled out by a disappointing result from India and the UK.

#### The US has fallen behind China because of lack of government incentives

Mathews 2/1 John is the Eni Chair of Competitive Dynamics and Global Strategy at LUISS Guido Carli University in Rome. “Renewable Energy and the Real Clash of Civilizations,” 2013, The Globalist, http://www.theglobalist.com/StoryId.aspx?StoryId=9890

It may be difficult to see through all the smog currently engulfing Beijing and other Chinese cities, but there is a green energy revolution taking place in China. The Chinese push for green technologies — which **stands in stark contrast to the dithering U.S. approach** — is good news if we have any hope of decarbonizing our industrial civilization.¶ Samuel Huntington's Clash of Civilizations is considered one of the foundation texts of our time, given its appearance in the decade prior to the destruction of the World Trade Center towers in September 2001.¶ But Huntington's focus on "the West" and "Islam" has done little to illuminate an even more fundamental and far-reaching clash — the one pitching the waning fossil fuel civilization against the waxing civilization based on renewables and resource-efficiency.¶ We see the evidence for this "civilizational clash" in terms of the struggle of the renewables industries to be born and prosper, while the fossil fuel industries — along with the companies, subsidies, regulations and laws that uphold their privileges — refuse to leave the field.¶ China and the United States represent the polar extremes in this clash — with China acting to build renewable energy industries. It is racing ahead as fast as is physically possible in order to ensure energy security, even as it builds a coal- and nuclear-fired thermal energy system.¶ The United States, in contrast, is focusing on innovation, **while Congressional leaders** are subject to heavy fossil fuel lobbying and **act to delay the transition to renewables.**

#### US falling behind China in green tech---plan boosts US competitiveness in the market

Cuttino 11 Phyllis Cuttino - Director, Pew Clean Energy Program. Oct 26, 2011 “**U.S. Is Behind, But Race Isn't Over”**

Last spring, Pew broke the unfortunate news that the United States’ competitive position in the clean energy sector was at risk. Once the leader in attracting overall investments, we’re now third behind China and Germany—and lag behind various countries on a variety of other key measures. A major reason is that our clean energy policies are not as clear, consistent, or ambitious as those of other nations. Our research shows that where such policy exists, investment follows.¶ The United States has a number of clean energy strengths on which to rebuild our economic leadership. We remain the world’s leader in clean energy innovation and venture capital investments—the money that jumpstarts new technologies. U.S. companies make a number of the component parts in the renewable sector. In fact, U.S. solar firms achieved a positive $1.9 billion trade flow in 2010, and exports of wind power products have risen every year since 2007. At a time when few sectors of the economy are thriving, renewables are the fastest growing source of world energy, according to the U.S. Energy Information Administration.¶ With the global clean energy market expected to reach $2.3 trillion by 2020, a strong competitive position is vital for the United States to capture a significant portion of that revenue. Emerging economies are eager for clean energy sector products. Without a change in national policy, the United States risks missing out on a major new economic opportunity.¶ Nothing would do more to strengthen the U.S. competitive position than policy that encourages American businesses to invest domestically in renewable energy. To begin, establishment of a national clean energy production goal would signal to investors and business leaders that there will be sustained demand. It would also spur the development of a robust supply chain, helping lower prices at home and making our products and manufacturers more globally competitive.

#### US is losing the renewables competitiveness race now---incentives are expiring

Mormann and Reicher 12Felix Mormann Associate Professor at the University of Miami School of Law and Faculty Fellow with Stanford University’s Steyer-Taylor Center for Energy Policy and Finance. Dan Reicher Executive Director of Stanford’s Steyer-Taylor Center for Energy Policy and Finance, a joint center of the Stanford business and law schools"Smarter Finance for Cleaner Energy: Open Up Master Limited Partnerships (MLPs) and Real Estate Investment Trusts (REITs) to Renewable Energy Investment," November 2012, [www.brookings.edu/~/media/Research/Files/Papers/2012/11/13%20federalism/13%20clean%20energy%20investment.pdf](http://www.brookings.edu/~/media/Research/Files/Papers/2012/11/13%20federalism/13%20clean%20energy%20investment.pdf)

The worldwide race for technological leadership in clean and renewable energy is on. Valued at $2.3 ¶ trillion globally over the next 10 years, the clean energy market already employs close to 3 million U.S. ¶ workers and continues to grow, making clean energy a key piece of America’s “Next Economy.” In ¶ addition to good-paying jobs, victory in the global clean energy race beckons with enhanced energy ¶ security and significant environmental benefits, including cleaner air and water. Winning this prize, ¶ however, will require an **aggressive push to keep up with international competition**. Virtually all industrially developed and most developing nations are competing for a slice of the global clean energy ¶ pie. In 2011, it took $48 billion of clean energy investment for the United States to reclaim the lead from ¶ China ($45.5 billion). But much of this money came from the 2009 American Recovery and ¶ Reconstruction Act’s (ARRA) stimulus funding. As these funds run out, America finds itself at a crossroads.

#### US Losing the global race in solar/wind

Jenkins 11 Jesse Jenkins - Director of Energy and Climate Policy, Breakthrough Institute, “A Clean Energy Comeback Strategy” OCTOBER 26, 2011

The global market for clean energy products grew to $243 billion in 2010, a year in which China and Germany both captured a greater share of this global investment than the United States. That has led many (myself included) to worry about the erosion of US competitiveness in a set of clean energy technology products—from solar and wind to nuclear and advanced batteries—originally invented in America.

#### US losing the competitiveness race now---only new federal investments create control of the global market

Bolze 11 Steve - GE Power & Water president "America Lacks Policy Leadership," National Journal, 11-2-11, energy.nationaljournal.com/2011/10/is-america-losing-the-clean-en.php?comments=expandall#comments

The race America is **clearly losing** is the competition for a rational, coherent national energy policy, which can create an environment for cleaner energy technology innovation. The United States has the world's largest installed base of energy infrastructure, which is ripe for modernization. Accelerated deployment of advanced cleaner energy technologies can deliver substantial benefits for both consumers and industrial users and create jobs, but investors cannot commit when the policy outlook is uncertain.¶ Technology leadership is a fragile asset. Lacking robust domestic demand, research, investment and technology development and commercialization will migrate. Almost every other country in the world has established a comprehensive energy policy aimed at diversifying their energy portfolios, reducing emissions and enhancing energy security. While they have an integrated, long-term energy strategy, the United States does not. This frustrates U.S. investment and greatly limits domestic technology growth.¶ Despite the lack of a long-term national strategy, American companies continue to innovate, compete and win globally. For example, earlier this month, GE announced a $600 million solar technology and manufacturing investment, which will create hundreds of jobs in Colorado and New York. GE has entered the solar power arena in a big way because we believe American technology, engineering and management can deliver the best value for electric utilities and consumers. We're also a major exporter of advanced, highly efficient gas turbines. This year, every gas turbine produced in our Greenville, SC, facility will be exported outside of the United States. GE will continue to be a world leader in advancing cleaner energy solutions. But lacking U.S. policy encouragement, commercial opportunities will grow faster outside of the United States.¶ The good news is that America has the elements required to be the global cleaner energy leader. America can out-innovate and out-compete any other nation. Technology and innovation are an historic national strength. Great American universities produce graduates with innovative ideas. An unparalleled financial system – despite the recent crisis – can deliver capital for good new business ideas. The U.S. government needs to get in the race and push clean energy policy over the finish line.

### Link Wall

#### US innovation crowds China out – it’s a zero sum game for manufacturing, supplies and profits – that’s McMahon

#### Absence of a federal FIT is allowing China to lock the US out of the market

Nelder 11 (Chris, "Why America needs a feed-in tariff" http://www.smartplanet.com/blog/energy-futurist/why-america-needs-a-feed-in-tariff/174)

The absence of a FiT has spawned a renewables industry in the U.S. that’s clunky and inefficient, with incentives and standards (like equipment ratings and electrical codes) varying wildly from state to state. It has also given us a cottage industry of third-party financing strategies designed to capture the federal tax credits, which ultimately redirects a significant portion of the already-marginal profit to the financial industry instead of adding new capacity.¶ With the wind of Chinese and Japanese FiTs at their backs, along with the world’s lowest manufacturing costs, the stage is now set for Asia to absolutely blow the doors off the U.S. PV market, starting next year. While we have been building new manufacturing capacity in the U.S., it probably won’t be sufficient to dampen that giant sucking sound, and could result in another round of module shortages here. The U.S. grid-connected solar PV market doubled to 878 MW from 2009 to 2010, but that was dwarfed by the demand of the German and Italian FiTs. More than 17 GW of capacity was installed globally in 2010. If the U.S. were to install PV commensurate with its share of the global energy market as a whole, we’d have installed 3.87 GW; instead we installed about one quarter of that.¶ The economics are now clearly in favor of renewables, especially over a 20 year horizon. Retrospective studies have shown that over time FiTs reduced the fully-considered costs of delivering power, and were the most cost-effective incentive strategy.

#### China’s ahead in clean tech development now and it’s zero sum---key to their economic growth

Bennhold 10 Katrin is a writer for the New York Times. “Race Is on to Develop Green, Clean Technology,” Jan 29, http://www.nytimes.com/2010/01/30/business/global/30davos.html?dbk&\_r=0

DAVOS, SWITZERLAND — It is shaping up to be **the** Great Game of the 21st century. To top officials and business executives here at the World Economic Forum, Topic A this year was the race to develop greener, cleaner technology, which is emerging as one of the critical factors in reshaping the world economy as emerging powers snap at the heels of battered Western economies. With the United States and China sizing each other up across the Pacific and Europe seeking to maintain its economic stature, it is a battle for potentially millions of jobs and trillions of dollars in export revenues. The outcome — which pits a venture capital-driven market approach relying on government subsides against a top-down system of state capitalism — has the potential to influence how economic and political systems evolve. Concern that China may be edging ahead in potentially lucrative growth sectors like renewable energy was palpable here, where senior officials from the United States and Europe warned that the West could not afford to be complacent. “Six months ago my biggest worry was that an emissions deal would make American business less competitive compared to China,” said Senator Lindsay Graham, a Republican from South Carolina who has been deeply involved in climate change issues in Congress. “Now my concern is that every day that we delay trying to find a price for carbon is a day that China uses to dominate the green economy.” He added: “China has made a long-term strategic decision and **they are going gang-busters**.” Christine Lagarde, the French finance minister, agreed. “**It’s a race and whoever wins that race will dominate economic development**,” she said. “The emerging markets are well-placed.”

### AT: Plan Boosts Competitiveness for Both

#### Boosting U.S. clean tech competitiveness trades off with China’s---it’s zero sum

S. Julio Friedmann 11, leader of the Carbon Management Program at Lawrence Livermore National Laboratory, 12/13/11, “How Chinese Innovation is Changing Green Technology,” Foreign Affairs, http://www.foreignaffairs.com/articles/136761/s-julio-friedmann/how-chinese-innovation-is-changing-green-technology?page=show

But this is not the same old cautionary tale of dirty development: China has taken these challenges, and the need for energy and 20 million new jobs per year, as an spur to invest in clean technology. Indeed, with the government putting over $50 billion into clean energy R&D every year, China has become a global hub for energy innovation. ¶ The country's progress is driven by a combination of government mandate and direct investment. Examples are many. A 2007 law required four percent gains in energy efficiency each year through 2012, including in the transportation and industrial sectors. Since then, total efficiency in the power sector has increased by nearly ten percent and is likely to continue rising. Such mandates have been matched by requirements for sulfur emissions control and cleaner water, the closure of many low-efficiency coal mines and cement plants, and new investment in solar, wind, and other renewable power. ¶ To all this, China's twelfth five-year-plan, introduced earlier this year, added goals for developing clean technology indigenously. Mostly these innovations will be for domestic use, although there is growing interest in international export markets for clean tech. Many state-funded projects now require that 80 percent of the technology used be indigenous. Two agencies are responsible for overseeing compliance. First is the National Energy Administration (NEA), which approves the financing and construction of virtually every large energy project. Second, the Ministry of Science and Technology (MOST) runs the more than 100 Chinese academies that conduct clean tech research. In 2010, China funneled tens of billions for green innovation through these two organizations. ¶ Massive state investment has allowed Beijing to do what private industry around the world cannot. Power and energy production requires massive upfront capital investments; the total cost for building individual novel solar, nuclear, or wind power facilities often exceeds one billion dollars. The high expense makes such projects risky for capital markets around the world, not to mention for most private firms. Often, private banks only want to be fast followers and invest in second-generation plants, not first-generation plants with a new design. NEA and MOST backing helps projects clear this hurdle. ¶ A good example is Huaneng, the world's largest power company, which generates about 160,000 megawatts of power per year -- 30 percent more than Texas. Every year, it adds 13,000 megawatts of new generation -- about the same as Massachusetts' current generation. To meet the government's many clean energy mandates, Huaneng plans to install windmills capable of generating 10,000 megawatts per year (close to the total of U.S. wind power) and solar panels capable of generating 10,000 megawatts per year (greater than the U.S. total). By 2025, Huaneng expects to add more than 50,000 megawatts of hydropower and 10,000 megawatts of nuclear power. Meanwhile, it will continue to add nearly 50 megawatts of coal power.¶ Other companies, too, are developing clean tech from scratch, both for domestic use and for export. The XinAo Group, Shenhua, State Grid, and CNOOC, all major Chinese energy firms, have created their own innovation enterprises undergirded by the financial power of their parent companies and the state. Their efforts include solar thin-films, biofuels, batteries, efficient vehicles, coal-to-liquids, shale gas, and smart grids. In many cases, Chinese companies have even formed joint ventures with firms in the United States to accelerate development and Western commercialization. For example, Lishen, one of the world's largest battery companies, has embarked on a $7 billion development drive to improve battery technology on its own, with licensing agreements in the United States. ¶ At the same time, China has started to repatriate Western-educated Chinese nationals, especially those who have worked at Western energy firms (GE, Dow, DuPont, Areva) or are leading scientists and engineers at Western universities (Johns Hopkins, MIT, Stanford, and USC, among others). When they return to China, they are given staffs of hundreds, multimillion-dollar budgets, and aggressive delivery timelines. Sometimes called "sea turtles" (for returning to the shores of their birth), they bring a Western innovation strategy to Chinese design, and are paired with the intellectual and financial resources needed to bring designs to life. ¶ In many ways, China's green dreams are good news. ¶ Consider the impact on the environment. Together the United States and China account for 40 percent of emissions, 40 percent of energy consumption, and 50 percent of global coal use. Nothing other countries do on this issue can match the impact of the actions (or innaction) of the United States or China. Without Washington and Beijing leading the way, the world will not mitigate the worst consequences of climate change. In this context, any Chinese investment in clean tech is a global good. ¶ Many U.S. businesses will benefit, too. For one, Chinese investment in green tech is already creating jobs in the United States. Thanks to Chinese partnerships with GE, Applied Materials, Duke Energy, and others, those companies have been able to build plants, hire people, demonstrate technology, and underwrite projects. Further, U.S. companies benefit directly from Chinese research. For example, FutureFuels, a U.S. company energy company in Pennsylvania, is deploying a novel clean-coal plant that Huaneng first tested and developed. Once operational, the plant could carry the smallest carbon footprint of any coal or gas plant in the eastern United States. And it would create with it thousands of jobs in southern Pennsylvania's Rust Belt, besides. ¶ Beyond that, U.S. companies and consumers will benefit indirectly from having access to lower-cost technologies that have already been tested on a large commercial scale, speeding the implementation of more efficient and sustainable energy technologies in the United States. So, too, will partnerships between the two countries. These commercial agreements have already started to lay a foundation of trust, absolutely essential for future U.S.-China government agreements in trade, climate, and other key areas.¶ At the same time, China's green innovation raises questions about U.S. and European competitiveness. For years, the West believed that its economic advantage was its ability to invent products that could be sold to eastern markets. Successive governments sold innovation as a pathway to job creation and prowess in manufacturing. However, if the West buys Chinese clean tech, that narrative reverses. It also raises the specter of permanent loss manufacturing for some heavy equipment, technology development, and high-value innovation.

#### It’s zero-sum---finite amount of profit to be gained---US is losing now

Mormann and Reicher 12 Felix Mormann Associate Professor at the University of Miami School of Law and Faculty Fellow with Stanford University’s Steyer-Taylor Center for Energy Policy and Finance. Dan Reicher Executive Director of Stanford’s Steyer-Taylor Center for Energy Policy and Finance, a joint center of the Stanford business and law schools"Smarter Finance for Cleaner Energy: Open Up Master Limited Partnerships (MLPs) and Real Estate Investment Trusts (REITs) to Renewable Energy Investment," November 2012, [www.brookings.edu/~/media/Research/Files/Papers/2012/11/13%20federalism/13%20clean%20energy%20investment.pdf](http://www.brookings.edu/~/media/Research/Files/Papers/2012/11/13%20federalism/13%20clean%20energy%20investment.pdf)

The worldwide race for technological leadership in clean and renewable energy is on. Valued at $2.3 ¶ trillion globally over the next 10 years, the clean energy market already employs close to 3 million U.S. ¶ workers and continues to grow, making clean energy a key piece of America’s “Next Economy.” In ¶ addition to good-paying jobs, victory in the global clean energy race beckons with enhanced energy ¶ security and significant environmental benefits, including cleaner air and water. Winning this prize, ¶ however, will require an **aggressive push to keep up with international competition**. Virtually all industrially developed and most developing nations are competing for a slice of the global clean energy ¶ pie. In 2011, it took $48 billion of clean energy investment for the United States to reclaim the lead from ¶ China ($45.5 billion). But much of this money came from the 2009 American Recovery and ¶ Reconstruction Act’s (ARRA) stimulus funding. As these funds run out, America finds itself at a crossroads.

#### Even if renewables competitiveness isn’t actually zero sum---Chinese leaders think it is

Andrew B. Kennedy 10, Lecturer in the Crawford School of Economics and Government at the Australian National University, June 2010, “China’s New Energy-Security Debate,” Survival, Vol. 52, No. 3

China’s booming energy demand has also helped make it the world’s most prolific emitter of greenhouse gases in recent years. Generally speaking, this development, and the threat of climate change more generally, has not been a driving force behind new thinking about energy security in China. While Chinese government reports have made the case that climate change is under way and that it is already damaging China’s economy, most Chinese analysts see power supply and local pollution as more pressing problems.48 But even before the Copenhagen conference a clear sense was emerging that climate change is altering the international context in which China operates. Many analysts worry that other countries will impose ‘carbon tariffs’ on Chinese exports if Beijing is seen as insufficiently cooperative on the climate-change issue, a concern that came to the fore after the US House of Representatives passed legislation authorising such tariffs in mid-2009.49 More broadly, many Chinese officials and analysts are focused on the idea that countries are now competing to develop and produce low-carbon technologies, and there is a determination to see China succeed in this race.50 In short, while fighting climate change is not the top priority for most Chinese analysts, the emergence of climate change as a high-profile international issue is reinforcing the sense that China must modernise, and even revolutionise, its domestic energy system if it is to prosper.

US competition crowds them out

By: Joshua Nickell et al 2010 is a staff intern with the Program on America & the Global Economy at the Woodrow Wilson Center, AND David Klaus, Consulting Director, Wilson Center on the Hill, AND Kent Hughes, Director, Program on America and the Global Economy, U.S.-China Competition for Clean Energy Jobs: A Zero-Sum Game?, 6/11 http://wilsoncenter.org/ondemand/index.cfm?fuseaction=Media.play&mediaid=38340B32-ECB7-93C4-46E8CB404C1C88B9

China is investing in clean energy not only to serve growing domestic energy demands, Romankiewicz asserted, but also seeks to be a major force in the international market. China has already made impressive advances in clean energy industries: of the top fifteen wind producers, four are Chinese while only two are American, and of the top ten crystalline-silicon solar cell producers, six are Chinese. China is focused on becoming a major player in exporting clean energy technologies. Romankiewicz argued, however, that breaking into the American market could prove exceedingly difficult given the stiff competition from domestic and foreign firms. Beyond outlining statistics, the speakers strongly emphasized the importance of understanding the nuances and grasping the bigger picture as well. Zindler pointed out that the economic implications are far deeper and more complex than the obvious gains, primarily an increase in the availability of construction jobs, from manufacturing and exporting clean energy modules. “If the Chinese are helping to drive down the cost… then they make solar less expensive…which means you can create more jobs in California or New Jersey….” Romankiewicz urged caution when reading “the made in China” label on clean energy technologies, as the process chain can be global and complex with parts coming from all over the world.

### AT: Glut

#### No glut---China finding new markets and can export now – plan prevents that

#### US losing ground on solar now---strong federal action causes control of the global market

Fazzino 11 Gary - Vice President of Government Affairs, Applied Materials, Inc."America Lacks Policy Leadership," National Journal, 10-28-11, “Strong, Sensible Policy Framework Needed”

There’s no doubt that **the U.S. is rapidly losing ground in the global race to** develop and **deploy solar.** In 2010, the U.S. accounted for only about $6 billion of the global $70 billion solar market. And Washington is largely to blame.¶ I’ll admit that it’s not often that you see industry calling for additional regulation, but the renewable energy industry needs certainty as we invest billions in researching, developing, deploying and scaling the clean energy solutions of tomorrow. That’s why we need a strong and sensible policy framework in place to level the playing field between fossil fuels and renewable energy – this includes a Clean Energy Standard (CES), manufacturing tax credits, increased funding for R&D, grant programs and low-cost financing.¶ The U.S. solar industry has begun to achieve real economic results (despite some recent negative publicity). According to the Solar Industries Associations (SEIA), the U.S. was a net exporter of solar products last year (2010), by as much as $2 billion. And there are more than 100,000 Americans employed by the industry in all 50 states.¶ But without a robust and coherent clean energy agenda at the federal level, we risk falling further behind countries like China, Germany, Italy and Japan – countries that are establishing ambitious programs of tax incentives and renewable energy portfolio standards.¶ And yet Washington continues to squabble and stall when it comes to clean energy.¶ We do see some glimmers of good news here in California, where the California Air Resources Board last week unanimously voted to finalize the regulatory framework for the State’s landmark cap-and-trade system, which is set to launch in January. The State also recently adopted legislation requiring utilities to obtain an even larger percentage of electricity from renewable sources – a Renewable Portfolio Standard of 33 percent (up from the existing RPS of 20 percent). This is a clear signal that, in the absence of a federal standard on clean energy or carbon emissions, the California clean energy economy will continue to thrive.¶ The U.S. undoubtedly **has the potential to dominate** the global clean energy industry – we have some of the world’s best and brightest minds in the business. But the longer Washington delays, the more difficult and elusive this challenge becomes.

## 2NR

#### China is fixing their glut problem

Shen 1/11 Feifei is a writer for Bloomberg. “China Working to Cut Idled Wind Farm Capacity,” 2013, Renewable Energy World, <http://www.renewableenergyworld.com/rea/news/article/2013/01/china-working-to-cut-idled-wind-farm-capacity>

Beijing, China -- China, the world's biggest carbon emitter, is making progress in connecting idled wind farms to the electricity grid, **helping to address a roadblock slowing** **the development of wind power.** "The issue is in the process of improvement, given the efforts made by grid companies," Jiang Liping, vice president of the State Grid Energy Research Institute, said in a phone interview on Jan. 10, without disclosing the connection rate.

# Natural Gas Adv

## 1NC

#### Companies are only reducing shale plays because it’s so abundant and cheap---but low prices are self-correcting

Knowledge@Wharton 12, the University of Pennsylvania’s business school, “The Once and Future U.S. Shale Gas Revolution,” 8/29/12, http://knowledge.wharton.upenn.edu/article.cfm?articleid=3068

Today, operators are pulling back from more mature shale gas fields, such as the Barnett in Texas and the Haynesville in Arkansas, Louisiana, and Texas, and deploying to newer fields with the potential of producing gas along with oil -- including the Utica in Ohio and Bone Spring in Texas and New Mexico, says Drew Koecher, KPMG's U.S. energy leader in transactions and restructuring. With low gas prices, many shale gas developers are facing financial challenges. Chesapeake Energy, based in Oklahoma City and the nation's second largest shale gas company after Exxon Mobil, needs to raise cash through asset sales, while managing a U.S. Securities and Exchange Commission investigation into CEO Aubrey McClendon's alleged conflicts of interest, which involve taking loans against his personal stake in the company's wells, according to news reports.

Still, the recent shale gas boom is far from over, and a full realization of the U.S. shale gas revolution is yet to come, say experts. For starters, the U.S. has significantly more resources to recover. "The U.S. has a long way to go before it depletes shale gas," says Brandon Beard, KPMG's managing director for U.S. energy transactions and restructuring. "It will take 10 to 20 years to play through." Moreover, as new demand for gas develops, gas prices will recover and buck up the industry. "The glut of gas is somewhat temporary," states Noam Lior, a Penn mechanical engineering and applied mechanics professor who is also on the graduate faculty of Penn/Wharton's Lauder Institute. "As long as oil prices are holding above $100 a barrel or so, gas will be very competitive." Jonathan Banks, senior climate policy advisor at the Clean Air Task Force in Boston, agrees. "Nothing cures low prices like low prices," he says. Spurred by these low prices, demand from electric utilities, chemical manufacturers, natural gas vehicles and overseas markets will restore health to the shale gas industry, and relatively low natural gas energy prices could help buoy the U.S. economy, experts predict. "It's a game changer," notes A.J. Scamuffa, U.S. chemicals leader at PwC in Philadelphia.

#### Shale’s sustainable for decades, cyclical rise and fall doesn’t mean it’s a bubble

John Hanger 11-26, expert on energy, electric markets, and utility regulation with unique experience in and out of government, Special Counsel at the law firm Eckert Seamans and a Democratic candidate for Governor of PA, former Secretary of the Pennsylvania Department of Environmental Protection and Commissioner of the Pennsylvania Public Utility Commission, 11/26/12, “Debunking Latest Attacks On Shale Gas As Bubble/Ponzi Scheme & Systemic Threat To Economy,” <http://johnhanger.blogspot.com/2012/11/debunking-latest-attacks-on-shale-gas.html>

Shale gas production for nearly a dozen years. A massive shale gas boom for now 5 years or since 2008. Record US natural gas production that crashed prices to below $2 for a thousand cubic feet.

Nothing stops the vampire like quality of attacks portraying the shale gas resource as soon to run out, as a bubble ready to pop, or a ponzi scheme. Here is the link to one of the latest:

http://www.desmogblog.com/2012/11/13/shale-sas-bubble-about-to-burst-say-energy-insiders-art-berman-bill-powers. Indeed, Bill Powers is promoting a book to be published in May, 2013 theorizing that the shale gas resource will last just 5 to 7 years more. Mind you such forecasts of impending shale gas supply doom are already about 3 years old, and soon US shale gas production will enter its 13th year.

Powers and Art Berman, who has done more than anyone to assert that the shale gas resource will soon collapse, also state that the economy faces cataclysm, like the financial catastrophe of 2008, when the shale gas resource is soon exhausted. This comparison of the shale gas industry to the US financial system is, however, absurd.

The industry has no too big to fail problem. Indeed, with about 60 different companies holding drilling permits in just Pennsylvania, the gas industry features a lack of concentration and has traits opposite of too big to fail.

Moreover, the gas industry is not the equivalent of a basic, economic infrastructure, unlike the banking system that is. Economic life goes on through gas booms and busts, while a financial collapse brings all commerce crashing down.

By pointing to the 2008 financial collapse and suggesting that shale gas is another round of such disaster, Berman and Powers engage in fear mongering and attention seeking behavior.

Tellingly, the recent pull back in dry gas production in the US, of course, results from the opposite of an emerging gas supply shortage. Instead, a very real gas supply glut crashed the price and caused rigs to redeploy to oil and wet gas.

But as some rigs went to more profitable opportunities, the gas in the ground stayed put, where it will be, when the gas rigs return. And return they will, once gas prices move to $4 to $6 per thousand cubic feet range. And there is conservatively 20 years of shale gas to be produced within that price range.

Moreover, were the US price to go above $6--hardly a high price, when today Europe and Asia pay $10 to $16 for natural gas-- the available shale gas supply certainly totals many decades more.

#### Chemical industry inevitable—nanotech boom and other countries fill in

Harper 7 (Tim, 4/30, Nanotech And The Chemical Industry, http://www.mabico.com/en/news/20070430/foreign\_exchange/article74463/)

In 2006, the global chemical industry spent some $2.9 billion dollars on nanotech-related research and development (R&D); that??™s almost three times what the US government spent on nanotech. And while government funding will remain fairly flat--how many national nanotech centers of excellence do you actually need--we see chemical industry growth continuing at some 25 to 30 percent a year until 2012. Globally, the market for nanomaterials is some $80 billion already, although the vast majority of this is business-to-business trade--supplies of bulk chemicals, particles, polymers adhesives, catalysts, etc.--will never end up in the hands of consumers. The industry also has more than 35,000 people worldwide directly engaged in nano-related research, the highest of any industrial sector outside the semiconductor industry (most of whose products are nanoscale already).

#### No impact---Royal’s wrong and doesn’t go nuclear

Robert Jervis 11, Professor in the Department of Political Science and School of International and Public Affairs at Columbia University, December 2011, “Force in Our Times,” Survival, Vol. 25, No. 4, p. 403-425

Even if war is still seen as evil, the security community could be dissolved if severe conflicts of interest were to arise. Could the more peaceful world generate new interests that would bring the members of the community into sharp disputes? 45 A zero-sum sense of status would be one example, perhaps linked to a steep rise in nationalism. More likely would be a worsening of the current economic difficulties, which could itself produce greater nationalism, undermine democracy and bring back old-fashioned beggar-my-neighbor economic policies. While these dangers are real, it is hard to believe that the conflicts could be great enough to lead the members of the community to contemplate fighting each other. It is not so much that economic interdependence has proceeded to the point where it could not be reversed – states that were more internally interdependent than anything seen internationally have fought bloody civil wars. Rather it is that even if the more extreme versions of free trade and economic liberalism become discredited, it is hard to see how without building on a preexisting high level of political conflict leaders and mass opinion would come to believe that their countries could prosper by impoverishing or even attacking others. Is it possible that problems will not only become severe, but that people will entertain the thought that they have to be solved by war? While a pessimist could note that this argument does not appear as outlandish as it did before the financial crisis, an optimist could reply (correctly, in my view) that the very fact that we have seen such a sharp economic down-turn without anyone suggesting that force of arms is the solution shows that even if bad times bring about greater economic conflict, it will not make war thinkable.

## 2NC

#### Production and price will find a natural equilibrium---makes shale sustainable and solves the impact to the advantage

Market Watch 11 – “Is shale gas production and investment sustainable?,” 12/2/11, http://blogs.marketwatch.com/thetell/2011/12/02/is-shale-gas-production-and-investment-sustainable/

The short answer to whether shale natural gas production and investment is sustainable is “yes,” according to Dimitris Kapsis, chief energy officer at American Utility Management.

Production and investment growth in shale gas will likely last for at least the next decade or two and possibly beyond, he said. Investment will also include “research for safer and more efficient production processes and technology.”

And once the U.S. economic recovery takes hold, demand for natural gas should increase, providing a lift to prices, he said.

Natural gas prices were trading lower Friday, with the January contract NG12F down 1.5% at $3.59 per million British thermal units on the New York Mercantile Exchange.

But Kapsis doesn’t expect pricing to “stay this depressed past 2013.” Prices won’t likely fall much further, either, because that will cause production shutdowns and “cause price spikes instead of sustainable methodic price growth.”

He believes pricing could stabilize around the $7 mark, “which should be acceptable by a healthy economy and fairly profitable for the producers.”

#### shale production sustainable

Chris Nedler 12, Smart Planet, 2/8/12, “Everything you know about shale gas is wrong,” http://www.smartplanet.com/blog/energy-futurist/everything-you-know-about-shale-gas-is-wrong/341

A word of caution is in order here: A one-year decline in production in an unprofitable environment is not proof that shale gas has “peaked.” It’s certainly possible that renewed drilling could bring higher production when gas prices rise again. The operative question in that case is when. If gas prices recover within the next year or two, it will be relatively easy to bring new wells online rapidly. But if gas prices languish for longer than that, the most productive “core” areas of the plays could become exhausted because the wells deplete so quickly. Without sustained new drilling to replace their production, by the time producers begin drilling again in the remaining, less productive prospects, an air pocket could form in the supply line.

#### No impact to decline rates---continual tech improvements

Jason Baihly 11, the Schlumberger product line manager for multistage stimulation, focusing on directing new technology research and market analysis for multistage acidized and hydraulically fractured reservoirs, May 2011, “Study Assesses Shale Decline Rates,” http://www.slb.com/~/media/Files/dcs/industry\_articles/201105\_aogr\_shale\_baihly.ashx

Lessons learned from earlier analyses of shale plays are benefiting the later developments in terms of improved log and core evaluation, leading to more precise well placement in reservoir sweet spots as well as better completion and stimulation design. Improvements have been made in lateral length, stage selection, diverter use and pumping techniques. Real-time microseismic hydraulic fracture mapping has enabled operators to avoid geohazards while maximizing reservoir contact.

While the Barnett Shale has the lowest initial production compared with the other plays, the decline rate for Barnett wells is markedly flatter, leading to the conclusion that fracture conductivity is sustained longer in the Barnett because of the favorable rock properties. However, a large number of open natural fractures in this area characterize the Barnett Shale.

With this wealth of data, any number of comparisons can be made to determine if there are relationships among basins, production years, initial production rates or decline rates. This allows EUR forecasts to be made.

It is perhaps an unfair comparison, but when shale gas wells are compared with tight gas sands wells, and when vertical wells are compared with horizontal wells, in a general sense it is clear that horizontal shale gas wells offer significantly higher EURs-definitely when compared with vertical wells, but also when compared with tight gas sands horizontal wells. The normalized decline curves were similar for both horizontal shale gas and horizontal tight gas sands, if not slightly better for the shales.

For the time frame analyzed, the Cotton Valley sand is a lower limit for normalized production decline behavior for all commercial horizontal shale gas plays analyzed in the study (Table 1). Considering that the study was conducted using only publicly available data, and did not include production improvements from workovers, recompletions or refracs, one can conclude that the study results are likely on the conservative side.

Costs Versus Gas Prices

Bottom-line financial success in the shale plays depends on many things, not the least of which is the capital cost of leasehold acquisitions. Early entrants have a decided advantage, some paying one-tenth of the lease prices of latecomers. Different basins have exhibited decidedly different cost structures (Table 2). which impact the economic parameters. Consequently, differences were factored into the economic analysis by determining discount profitability indexes (DPI) to allow basins to be compared. For this analysis, well construction, royalty and operating costs were compared with the EUR at three discount rates, assuming a constant wellhead gas price of $4.00 an Mcf for the life of the well (Table 3). Profitability is defined for wells whose DPI is greater than 1.0 at a given discount rate.

Accordingly, for wells analyzed in core play areas in 2008 and 2009, only wells in the Barnett and Fayetteville were deemed to be profitable under spot gas prices. That said, it is important to note that many operators have some or all of their gas prices hedged at higher than spot price values. However, it also is clear that modern methods and technology supported by experience and knowledge are improving results significantly in most plays. The results shown in Table 4 reflect the break-even price for wells drilled in each formation based on wells completed in 2008 and 2009.

It is important to note that actual drilling, completing, stimulating and operating costs may vary1 greatly from operator to operator, resulting in a large impact on overall economics. Some operators may have better production in a given core area versus others, further improving the picture. In addition, as noted, nearly all operators have at least some portion of their gas prices hedged at levels that may make all or most of the shale plays analyzed viable.

#### there’s 100 years of shale gas

OGI 9 – Oil & Gas Investor, 6/19/09, “Potential Gas Committee Report Places U.S. Gas Reserves At 2.07 Quadrillion Cubic Feet,” http://www.oilandgasinvestor.com/item/Potential-Gas-Committee-Report-Places-US-Gas-Reserves-207-Quadrillion-Cubic-Feet\_41197

A report issued by natural gas think tank the Potential Gas Committee estimated gas resources in the U.S. have surged by 35% due in large part to new technologies that have unlocked huge new domestic supplies of the clean fuel.

These results confirm industry and Department of Energy estimates of a 100-year supply of natural gas, which continues to grow as technology improves, and underscore the tremendous opportunities gas offers in terms of protecting America’s national security interests, meeting carbon regulations and serving as a critical foundation for renewable energy expansion.

Highlights of the report include an increase in gas supplies that is the largest in the 44-year history of reports from the Potential Gas Committee. Estimated gas reserves rose to 2.07 quadrillion cubic feet in 2008, from 1.5 quadrillion cubic feet in 2006 when the last report was issued.

Natural gas accounts for about a quarter of the nation's total energy use, and 22% of electrical production. The U.S. Energy Department estimates that demand for natural gas will rise by 13% by 2030.

America’s Natural Gas Alliance chairman David Trice says, “This is just the latest in a string of authoritative reports confirming the abundance of natural gas in America. It’s time for our national energy policy and market place decisions to reflect that this affordable, clean, and abundant resource is here now and can power America for the next century. Quite simply, we have gas in North America—lots of it—and it can dramatically reduce greenhouse gas emissions and help secure a clean energy future.”

# Warming Adv

## 1NC

#### Plan prevents tech innovation—that turns solvency

Álvarez 6 (Gabriel Calzada, Associate Professor at Universidad Rey Juan Carlos in Madrid, “BEFORE THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS HEARINGS ON “CLIMATE CHANGE AND ENSURING THAT AMERICA LEADS THE CLEAN ENERGY TRANSFORMATION””, 8/6, http://www.instituteforenergyresearch.org/pdf/Calzada%20EPW%20Testimony%20Aug%206%202009.pdf)

The study offers a caution against a certain form of green energy mandate. Minimum guaranteed prices generate surpluses that are difficult to manage. In Spain’s case, the minimum electricity prices for renewable-generated electricity, far above market prices, wasted a vast amount of capital that could have been otherwise economically allocated in other sectors. Arbitrary, state-established price systems inherent in “green energy” schemes leave the subsidized renewable industry hanging by a very weak thread and, it appears, doomed to dramatic adjustments that will include large unemployment, loss of capital, dismantlement of productive facilities and perpetuation of inefficient ones.¶ These schemes create serious “bubble” potential, as Spain is now discovering. The most paradigmatic bubble case can be found in the photovoltaic industry. **Even with subsidy schemes** leaving the mean sale price of electricity generated from solar photovoltaic power 6 times higher than the mean price of the pool, **solar failed even to reach 1% of Spain’s total electricity production in 2008. The energy future has been jeopardized by the current state of wind or photovoltaic technology (more expensive and less efficient than conventional energy sources).** These policies will leave Spain saddled with and further artificially perpetuating obsolete fixed assets, far less productive than cutting-edge technologies, the soaring rates for which soon-to-be obsolete assets the government has committed to maintain at high levels during their lifetime.

#### No impact---mitigation and adaptation will solve

Robert O. Mendelsohn 9, the Edwin Weyerhaeuser Davis Professor, Yale School of Forestry and Environmental Studies, Yale University, June 2009, “Climate Change and Economic Growth,” online: http://www.growthcommission.org/storage/cgdev/documents/gcwp060web.pdf

These statements are largely alarmist and misleading. Although climate change is a serious problem that deserves attention, society’s immediate behavior has an extremely low probability of leading to catastrophic consequences. The science and economics of climate change is quite clear that emissions over the next few decades will lead to only mild consequences. The severe impacts predicted by alarmists require a century (or two in the case of Stern 2006) of no mitigation. Many of the predicted impacts assume there will be no or little adaptation. The net economic impacts from climate change over the next 50 years will be small regardless. Most of the more severe impacts will take more than a century or even a millennium to unfold and many of these “potential” impacts will never occur because people will adapt. It is not at all apparent that immediate and dramatic policies need to be developed to thwart long‐range climate risks. What is needed are long‐run balanced responses.

#### Existing Co2 triggers impact

Hillman 7 Mayer, Senior Fellow at the Policy Studies Institute, “The Suicidal Planet: How To Prevent Global Climate Catastrophe”, p. 25-6

The effects of climate change cannot quickly be reversed by reducing or even eliminating future emissions of greenhouse gases. There are two reasons for this. First, greenhouse gases released into the atmosphere linger for decades (in the case of relatively short-lived gases like methane), or hundreds of years (for carbon dioxide), or even thousands of years (for the long-lived gases like per-fluorocarbons). Carbon dioxide and methane concentrations in the atmosphere are respectively one-third and more than twice as high as those at any time over the last 650,000 years. Even if no additional carbon dioxide were emitted from now on, atmospheric concentrations would take centuries to decline to pre-Industrial Revolution levels. While elevated levels of greenhouse gases remain in the atmosphere, additional warming will occur.

#### No extinction from climate change

NIPCC 11 – the Nongovernmental International Panel on Climate Change, an international panel of nongovernment scientists and scholars, March 8, 2011, “Surviving the Unprecedented Climate Change of the IPCC,” online: http://www.nipccreport.org/articles/2011/mar/8mar2011a5.html

In a paper published in Systematics and Biodiversity, Willis et al. (2010) consider the IPCC (2007) "predicted climatic changes for the next century" -- i.e., their contentions that "global temperatures will increase by 2-4°C and possibly beyond, sea levels will rise (~1 m ± 0.5 m), and atmospheric CO2 will increase by up to 1000 ppm" -- noting that it is "widely suggested that the magnitude and rate of these changes will result in many plants and animals going extinct," citing studies that suggest that "within the next century, over 35% of some biota will have gone extinct (Thomas et al., 2004; Solomon et al., 2007) and there will be extensive die-back of the tropical rainforest due to climate change (e.g. Huntingford et al., 2008)."

On the other hand, they indicate that some biologists and climatologists have pointed out that "many of the predicted increases in climate have happened before, in terms of both magnitude and rate of change (e.g. Royer, 2008; Zachos et al., 2008), and yet biotic communities have remained remarkably resilient (Mayle and Power, 2008) and in some cases thrived (Svenning and Condit, 2008)." But they report that those who mention these things are often "placed in the 'climate-change denier' category," although the purpose for pointing out these facts is simply to present "a sound scientific basis for understanding biotic responses to the magnitudes and rates of climate change predicted for the future through using the vast data resource that we can exploit in fossil records."

Going on to do just that, Willis et al. focus on "intervals in time in the fossil record when atmospheric CO2 concentrations increased up to 1200 ppm, temperatures in mid- to high-latitudes increased by greater than 4°C within 60 years, and sea levels rose by up to 3 m higher than present," describing studies of past biotic responses that indicate "the scale and impact of the magnitude and rate of such climate changes on biodiversity." And what emerges from those studies, as they describe it, "is evidence for rapid community turnover, migrations, development of novel ecosystems and thresholds from one stable ecosystem state to another." And, most importantly in this regard, they report "there is very little evidence for broad-scale extinctions due to a warming world."

In concluding, the Norwegian, Swedish and UK researchers say that "based on such evidence we urge some caution in assuming broad-scale extinctions of species will occur due solely to climate changes of the magnitude and rate predicted for the next century," reiterating that "the fossil record indicates remarkable biotic resilience to wide amplitude fluctuations in climate."

#### [ ] Their internal link can’t possibly affect emissions enough to solve warming – electricity not enough

Patrick J. Michaels 7, former program chair for the Committee on Applied Climatology of the American Meteorological Society, was a research professor of Environmental Sciences at University of Virginia for thirty years, was a contributing author and is a reviewer of the United Nations Intergovernmental Panel on Climate Change, February 2, 2007, “Live with Climate Change,” online: <http://www.cato.org/publications/commentary/live-climate-change>

However, actually "doing something" about warming is a daunting endeavor. The journal Geophysical Research Letters estimated in 1997 that if every nation on Earth lived up to the United Nations' Kyoto Protocol on global warming, it would prevent no more than 0.126 degrees F of warming every 50 years. Global temperature varies by more than that from year to year, so that's not even enough to measure. Climatically, Kyoto would do nothing.

In the past four years, the Senate has voted twice against "cap-and-trade" legislation — sponsored by New Mexico senators Jeff Bingaman, a Democrat, and Pete Domenici, a Republican — that would set quotas on carbon emissions and let companies buy and sell them. If adopted, their cap-and-trade law would reduce emissions by less than the Kyoto Protocol specifies. In other words, the Senate has been loath to even adopt something that does less than nothing.

The stark reality is that if we really want to alter the warming trajectory of the planet significantly, we have to cut emissions by an extremely large amount, and — a truth that everyone must know — we simply do not have the technology to do so. We would fritter away billions in precious investment capital in a futile attempt to curtail warming.

## 1NR

#### Nuclear war turns warming

Duncan Clark 9, editorial environmental consultant to the London Guardian, co-director of GreenProfile, January 2, 2009, “The carbon footprint of nuclear war,” online: http://www.guardian.co.uk/environment/blog/2009/jan/02/nuclear-war-emissions

Almost 700m [million] tonnes of CO2 would be released into the Earth's atmosphere by even the smallest nuclear conflict, according to a US study that compares the environmental costs of developing various power sources

Just when you might have thought it was ethically sound to unleash a nuclear attack on a nearby city, along comes a pesky scientist and points out that atomic warfare is bad for the climate. According to a new paper in the journal Energy & Environmental Science, even a very limited nuclear exchange, using just a thousandth of the weaponry of a full-scale nuclear war, would cause up to 690m tonnes of CO2 to enter the atmosphere – more than UK's annual total.

The upside (kind of) is that the conflict would also generate as much as 313m tonnes of soot. This would stop a great deal of sunlight reaching the earth, creating a significant regional cooling effect in the short and medium terms – just like when a major volcano erupts. Ultimately, though, the CO2 would win out and crank up global temperatures an extra few notches.

The paper's author, Mark Z Jacobson, a professor of civil and environmental engineering at Stanford University, calculated the emissions of such a conflict by totting up the burn rate and carbon content of the fabric of our cities. "Materials have the following carbon contents: plastics, 38–92%; tyres and other rubbers, 59–91%; synthetic fibres, 63–86%; woody biomass, 41–45%; charcoal, 71%; asphalt, 80%; steel, 0.05–2%. We approximate roughly the carbon content of all combustible material in a city as 40–60%."

But why would a Stanford engineer bother calculating such a thing? Given that the nuclear exchange would also kill up to 17 million people, who's going to be thinking about the impact on global warming?

The purpose of the paper is to compare the total human and environmental costs of a wide range of different power sources, from solar and wind to nuclear and biofuels. One of the side-effects of nuclear power, the report argues, is an increased risk of nuclear war: "Because the production of nuclear weapons material is occurring only in countries that have developed civilian nuclear energy programs, the risk of a limited nuclear exchange between countries or the detonation of a nuclear device by terrorists has increased due to the dissemination of nuclear energy facilities worldwide."

"As such," Jacobson continues, "it is a valid exercise to estimate the potential number of immediate deaths and carbon emissions due to the burning of buildings and infrastructure associated with the proliferation of nuclear energy facilities and the resulting proliferation of nuclear weapons … Although concern at the time of an explosion will be the deaths and not carbon emissions, policy makers today must weigh all the potential future risks of mortality and carbon emissions when comparing energy sources."

# Water Adv

## 1NC

#### Squo and intervening actors solve Ogallala

Peterson et al 3 Jeffrey M, Thomas L. Marsh and Jeffrey R. Williams, Peterson and Marsh are assistant professors and Jeffrey R. Williams is a professor in the Department of Agricultural Economics at Kansas State University, February, "Conserving the Ogallala Aquifer: Efficiency, Equity and Moral Motives", www.choicesmagazine.org/2003-1/2003-1-04.htm

Of the three motives, economic efficiency has largely driven the shaping of water policies in the High Plains. During the early years of development, groundwater was considered inexhaustible and its hydrology a mystery. Water laws that fostered orderly and rapid development of the resource increased efficiency, but policies came to reflect the common pool nature of the aquifer as development grew. In the 1974 Groundwater Management District Act, Kansas lawmakers concluded that rules created by local districts were needed "for the proper management of the groundwater resources of the state; for the conservation of groundwater resources; [and] for the prevention of economic deterioration." These districts later set limits on new water permits based on the external costs to nearby water users.¶ Sustainability motives have entered recent policy debates. The "zero depletion" proposal in Kansas would limit an area's withdrawals to the amount of natural recharge over a prescribed time period. Similarly, the "two pools" plan would restrict withdrawals only after an area's "usable pool" of water is gone; the remaining "conservation pool" would be preserved for future generations. Although the Kansas Ogallala Management Advisory Committee did not support these proposals, sustainability remained an important goal. The committee's report made several recommendations for "extending the life of the aquifer and sustaining the vitality of western Kansas" (2001, p.7-8).¶ Flexible policy alternatives can address multiple concerns and changes in policy needs over time. Flexibility characterizes the tradable water deeds policy first proposed a quarter century ago (Smith, 1977). In this policy, each water user would receive an initial allocation of water permits that are then forfeited for each unit pumped less recharge. For instance, an irrigator initially may receive deeds for pumping 1,000 acre-feet of water from a given well. If 100 acre-feet are pumped the first year and recharge is 25 acre-feet, then deeds for 925 acre-feet remain for the next year. Irrigators could also buy and sell deeds among themselves within prescribed areas. Limiting the number of returnable permits in individual years could address efficiency goals. Similarly limiting the number of permits initially issued could address equity and moral concerns.¶ The water deeds policy is a potential base of comparison for other High Plains proposals. One explanation for the opposition to the recent Kansas proposals is their narrow focus on sustainability. Many irrigators agree that restricting water use will enhance sustainability. Nonetheless, the two proposals did not clearly specify how the remaining water would be allocated across space or time. Absence of this provision caused considerable uncertainty about future impacts on farmers and local economies. The water deeds policy has a clear mechanism for limiting and allocating water. Deeds are not issued for the water needed for future generations, and market forces would allocate currently usable water. In effect, water deeds would create a market for the groundwater stock in the same spirit as the markets for surface water that already function in parts of the American west and other arid regions throughout the world.

#### No impact to biodiversity

Sagoff 97  Mark, Senior Research Scholar – Institute for Philosophy and Public policy in School of Public Affairs – U. Maryland, William and Mary Law Review, “INSTITUTE OF BILL OF RIGHTS LAW SYMPOSIUM DEFINING TAKINGS: PRIVATE PROPERTY AND THE FUTURE OF GOVERNMENT REGULATION: MUDDLE OR MUDDLE THROUGH? TAKINGS JURISPRUDENCE MEETS THE ENDANGERED SPECIES ACT”, 38 Wm and Mary L. Rev. 825, March, L/N

Note – Colin Tudge - Research Fellow at the Centre for Philosophy at the London School of Economics. Frmr Zoological Society of London: Scientific Fellow and tons of other positions. PhD. Read zoology at Cambridge.

Simon Levin = Moffet Professor of Biology, Princeton. 2007 American Institute of Biological Sciences Distinguished Scientist Award 2008 Istituto Veneto di Scienze Lettere ed Arti 2009 Honorary Doctorate of Science, Michigan State University 2010 Eminent Ecologist Award, Ecological Society of America 2010 Margalef Prize in Ecology, etc… PhD

Although one may agree with ecologists such as Ehrlich and Raven that the earth stands on **the brink of** an episode of **massive extinction, it may not follow** from this grim fact **that human** being**s will suffer** as a result. On the contrary, skeptics such as science writer Colin Tudge have challenged biologists to explain **why we need more than a tenth of the 10 to 100 million species that grace the earth**. Noting that "cultivated systems often out-produce wild systems by 100-fold or more," Tudge declared that "the argument that humans need the variety of other species is, when you think about it, a theological one." n343 Tudge observed that "the elimination of all but a tiny minority **of our fellow creatures does not affect the material well-being of humans** one iota."n344 This skeptic challenged ecologists to list more than 10,000 species (other than unthreatened microbes) that are essential to ecosystem productivity or functioning. n345 "**The human species could survive just as well** if 99.9% of our fellow creatures went extinct, provided only that we retained the appropriate 0.1% that we need." n346   [\*906]   The monumental Global Biodiversity Assessment ("the Assessment") identified two positions with respect to redundancy of species. "At one extreme is the idea that each species is unique and important, such that its removal or loss will have demonstrable consequences to the functioning of the community or ecosystem." n347 The authors of the Assessment, a panel of eminent ecologists, endorsed this position, saying it is "unlikely that there is much, if any, ecological redundancy in communities over time scales of decades to centuries, the time period over which environmental policy should operate." n348 These eminent ecologists rejected the opposing view, "the notion that species overlap in function to a sufficient degree that removal or loss of a species will be compensated by others, with negligible overall consequences to the community or ecosystem." n349  Other biologists believe, however, that species are so fabulously redundant in the ecological functions they perform that the life-support systems and processes of the planet and ecological processes in general will function perfectly well with fewer of them, certainly fewer than the millions and millions we can expect to remain **even if** **every threatened organism becomes extinct**. n350 Even the kind of sparse and miserable world depicted in the movie Blade Runner could provide a "sustainable" context for the human economy as long as people forgot their aesthetic and moral commitment to the glory and beauty of the natural world. n351 The Assessment makes this point. "Although any ecosystem contains hundreds to thousands of species interacting among themselves and their physical environment, the emerging consensus is that the system is driven by a small number of . . . biotic variables on whose interactions the balance of species are, in a sense, carried along." n352   [\*907]   To make up your mind on the question of the functional redundancy of species, consider an endangered species of bird, plant, or insect and ask how the ecosystem would fare in its absence. The fact that the creature is endangered suggests an answer: it is already in limbo as far as ecosystem processes are concerned. What crucial ecological services does the black-capped vireo, for example, serve? Are any of the species threatened with extinction necessary to the provision of any ecosystem service on which humans depend? If so, which ones are they?  Ecosystems and the species that compose them have changed, dramatically, continually, and totally in virtually every part of the United States. There is little ecological similarity, for example, between New England today and the land where the Pilgrims died. n353 In view of the constant reconfiguration of the biota, **one may wonder why Americans have not suffered more as a result of ecological catastrophes**. The cast of species in nearly every environment changes constantly-local extinction is commonplace in nature-but the crops still grow. Somehow, it seems, property values keep going up on Martha's Vineyard in spite of the tragic disappearance of the heath hen.  One might argue that the sheer number and variety of creatures available to any ecosystem buffers that system against stress. Accordingly, we should be concerned if the "library" of creatures ready, willing, and able to colonize ecosystems gets too small. (Advances in genetic engineering may well permit us to write a large number of additions to that "library.") In the United States as in many other parts of the world, however, the number of species has been increasing dramatically, not decreasing, as a result of human activity. This is because the hordes of exotic species coming into ecosystems in the United States far exceed the number of species that are becoming extinct. Indeed, introductions may outnumber extinctions by more than ten to one, so that the United States is becoming more and more species-rich all the time largely as a result of human action. n354 [\*908] Peter Vitousek and colleagues estimate that over 1000 non-native plants grow in California alone; in Hawaii there are 861; in Florida, 1210. n355 In Florida more than 1000 non-native insects, 23 species of mammals, and about 11 exotic birds have established themselves. n356 Anyone who waters a lawn or hoes a garden knows how many weeds desire to grow there, how many birds and bugs visit the yard, and how many fungi, creepy-crawlies, and other odd life forms show forth when it rains. All belong to nature, from wherever they might hail, but not many homeowners would claim that there are too few of them. Now, not all exotic species provide ecosystem services; indeed, some may be disruptive or have no instrumental value. n357 This also may be true, of course, of native species as well, especially because all exotics are native somewhere. Certain exotic species, however, such as Kentucky blue grass, establish an area's sense of identity and place; others, such as the green crabs showing up around Martha's Vineyard, are nuisances. n358 Consider an analogy [\*909] with human migration. Everyone knows that after a generation or two, immigrants to this country are hard to distinguish from everyone else. The vast majority of Americans did not evolve here, as it were, from hominids; most of us "came over" at one time or another. This is true of many of our fellow species as well, and they may fit in here just as well as we do. It is possible to distinguish exotic species from native ones for a period of time, just as we can distinguish immigrants from native-born Americans, but as the centuries roll by, species, like people, fit into the landscape or the society, changing and often enriching it. Shall we have a rule that a species had to come over on the Mayflower, as so many did, to count as "truly" American? Plainly not. When, then, is the cutoff date? Insofar as we are concerned with the absolute numbers of "rivets" holding ecosystems together, extinction seems not to pose a general problem because a far greater number of kinds of mammals, insects, fish, plants, and other creatures thrive on land and in water in America today than in prelapsarian times. n359 The Ecological Society of America has urged managers to maintain biological diversity as a critical component in strengthening ecosystems against disturbance. n360 Yet as Simon Levin observed, "much of the detail about species composition will be irrelevant in terms of influences on ecosystem properties." n361 [\*910] He added: "For net primary productivity, as is likely to be the case for any system property, **biodiversity matters only up to a point**; above a certain level, increasing biodiversity is likely to make **little difference**." n362 What about the use of plants and animals in agriculture? There is no scarcity foreseeable. "Of an estimated 80,000 types of plants [we] know to be edible," a U.S. Department of the Interior document says, "only about 150 are extensively cultivated." n363 About twenty species, not one of which is endangered, provide ninety percent of the food the world takes from plants. n364 Any new food has to take "shelf space" or "market share" from one that is now produced. Corporations also find it difficult to create demand for a new product; for example, people are not inclined to eat paw-paws, even though they are delicious. It is hard enough to get people to eat their broccoli and lima beans. It is harder still to develop consumer demand for new foods. This may be the reason the Kraft Corporation does not prospect in remote places for rare and unusual plants and animals to add to the world's diet. Of the roughly 235,000 flowering plants and 325,000 nonflowering plants (including mosses, lichens, and seaweeds) available, farmers ignore virtually all of them in favor of a very few that are profitable. n365 To be sure, any of the more than 600,000 species of plants could have an application in agriculture, but would they be preferable to the species that are now dominant? Has anyone found any consumer demand for any of these half-million or more plants to replace rice or wheat in the human diet? There are reasons that farmers cultivate rice, wheat, and corn rather than, say, Furbish's lousewort. There are many kinds of louseworts, so named because these weeds were thought to cause lice in sheep. How many does agriculture really require? [\*911] The species on which agriculture relies are domesticated, not naturally occurring; they are developed by artificial not natural selection; they might not be able to survive in the wild. n366 This argument is not intended to deny the religious, aesthetic, cultural, and moral reasons that command us to respect and protect the natural world. These spiritual and ethical values should evoke action, of course, but we should also recognize that they are spiritual and ethical values. We should recognize that ecosystems and all that dwell therein compel our moral respect, our aesthetic appreciation, and our spiritual veneration; we should clearly seek to achieve the goals of the ESA. There is no reason to assume, however, that these goals have anything to do with human well-being or welfare as economists understand that term. These are ethical goals, in other words, not economic ones. Protecting the marsh may be the right thing to do for moral, cultural, and spiritual reasons. We should do it-but someone will have to pay the costs. In the narrow sense of promoting human welfare, protecting nature often represents a net "cost," not a net "benefit." It is largely for moral, not economic, reasons-ethical, not prudential, reasons- that we care about all our fellow creatures. They are valuable as objects of love not as objects of use. What is good for   [\*912]  the marsh may be good in itself even if it is not, in the economic sense, good for mankind. The most valuable things are quite useless.

#### No risk of resource wars

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Water/food resources, war and conflict¶ The question of resource scarcity has led to many debates on whether scarcity (whether of food or water) will lead to conflict and war. The underlining reasoning behind most of these discourses over food and water wars comes from the Malthusian belief that there is an imbalance between the economic availability of natural resources and population growth since while food production grows linearly, population increases exponentially. Following this reasoning, neo-Malthusians claim that finite natural resources place a strict limit on the growth of human population and aggregate consumption; if these limits are exceeded, social breakdown, conflict and wars result. Nonetheless, it seems that most empirical studies do not support any of these neo-Malthusian arguments. Technological change **and greater inputs of capital** have **dramatically increased labour productivity in agriculture.** More generally, the neo-Malthusian view has suffered because during the last two centuries **humankind has breached many resource barriers that seemed unchallengeable**.¶ Lessons from history: alarmist scenarios, resource wars and international relations¶ In a so-called age of uncertainty, a number of alarmist scenarios have linked the increasing use of water resources and food insecurity with wars. The idea of water wars (perhaps more than food wars) is a dominant discourse in the media (see for example Smith, 2009), NGOs (International Alert, 2007) and within international organizations (UNEP, 2007). In 2007, UN Secretary General Ban Ki-moon declared that ‘water scarcity threatens economic and social gains and is a potent fuel for wars and conflict’ (Lewis, 2007). Of course, this type of discourse has an **instrumental purpose**; security and conflict are here used for raising water/food as key policy priorities at the international level.¶ In the Middle East, presidents, prime ministers and foreign ministers have also used this bellicose rhetoric. Boutrous Boutros-Gali said; ‘the next war in the Middle East will be over water, not politics’ (Boutros Boutros-Gali in Butts, 1997, p. 65). The question is not whether the sharing of transboundary water sparks political tension and alarmist declaration, but rather to what extent water has been a principal factor in international conflicts. The evidence seems quite weak. Whether by president Sadat in Egypt or King Hussein in Jordan, none **of these declarations have been followed up by military action**.¶ The governance of transboundary water has gained increased attention these last decades. This has a direct impact on the global food system as water allocation agreements determine the amount of water that can used for irrigated agriculture. The likelihood of conflicts over water is an important parameter to consider in assessing the stability, sustainability and resilience of global food systems.¶ None **of the** various and extensive databases on the causes of war show water as a casus belli. Using the International Crisis Behavior (ICB) data set and supplementary data from the University of Alabama on water conflicts, Hewitt, Wolf and Hammer found only seven disputes where water seems to have been at least a partial cause for conflict (Wolf, 1998, p. 251). In fact, about 80% of the incidents relating to water were limited purely to governmental rhetoric intended for the electorate (Otchet, 2001, p. 18).¶ As shown in The Basins At Risk (BAR) water event database, **more than two-thirds of over 1800 water-related ‘events’ fall on the ‘cooperative’ scale** (Yoffe et al., 2003). Indeed, if one takes into account a much longer period, the following figures clearly demonstrate this argument. According to studies by the United Nations Food and Agriculture Organization (FAO), organized political bodies signed between the year 805 and 1984 more than 3600 water-related treaties, and approximately 300 treaties dealing with water management or allocations in international basins have been negotiated since 1945 ([FAO, 1978] and [FAO, 1984]).¶ The fear around water wars have been driven by a Malthusian outlook which equates scarcity with violence, conflict and war. There is however **no direct correlation between water scarcity and transboundary conflict**. Most specialists now tend to agree that the major issue is not scarcity per se but rather the allocation of water resources between the different riparian states (see for example [Allouche, 2005], [Allouche, 2007] and [Rouyer, 2000]). Water rich countries have been involved in a number of disputes with other relatively water rich countries (see for example India/Pakistan or Brazil/Argentina). The perception of each state’s estimated water needs really constitutes the core issue in transboundary water relations. Indeed, whether this scarcity exists or not in reality, perceptions of the amount of available water shapes people’s attitude towards the environment (Ohlsson, 1999). In fact, some water experts have argued that scarcity drives the process of co-operation among riparians ([Dinar and Dinar, 2005] and [Brochmann and Gleditsch, 2006]).¶ In terms of international relations, the threat of water wars due to increasing scarcity **does not make much sense in the light of the recent** historical record. Overall, the water war rationale expects conflict to occur over water, and appears to suggest that violence is a viable means of securing national water supplies, an argument which is highly contestable.¶ The debates over the likely impacts of climate change have again popularised the idea of water wars. The argument runs that climate change will precipitate worsening ecological conditions contributing to resource scarcities, social breakdown, institutional failure, mass migrations and in turn cause greater political instability and conflict ([Brauch, 2002] and [Pervis and Busby, 2004]). In a report for the US Department of Defense, Schwartz and Randall (2003) speculate about the consequences of a worst-case climate change scenario arguing that water shortages will lead to aggressive wars (Schwartz and Randall, 2003, p. 15). Despite growing concern that climate change will lead to instability and violent conflict, **the evidence base to substantiate the connections is thin** ([Barnett and Adger, 2007] and [Kevane and Gray, 2008]).

#### New tech and adaption solve food shortages

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While doing my dissertation I learned a few things about world crops. Serial adoption of new technologies produces a nearly constant increase in yields. Greater fertilizer application, improved response to fertilizer, better tractor technology, better tillage practices, old-fashioned genetic selection, and new-fashioned genetic engineering all conspire to raise yields, year after year.¶ Weather and climate have something to do with yields, too. Seasonal rainfall can vary a lot from year-to-year. That's "weather." If dry years become dry decades (that's "climate") farmers will switch from corn to grain sorghum, or, where possible, wheat. Breeders and scientists will continue to develop more water-efficient plants and agricultural technologies, such as no-till production.¶ Adaptation even applies to the home garden. The tomato variety "heat wave" sets fruit at higher temperatures than traditional cultivars.¶ However, Gillis claims that "[t]he rapid growth in farm output that defined the late 20th century has slowed" because of global warming.¶ His own figures show this is wrong. The increasing trend in world crop yields from 1960 to 1980 is exactly the same as from 1980 to 2010. And per capita grain production is rising, not falling.

#### No food shortages

Goklany 9**—**Worked with federal and state governments, think tanks, and the private sector for over 35 years. Worked with IPCC before its inception as an author, delegate and reviewer. Negotiated UN Framework Convention on Climate Change. Managed the emissions trading program for the EPA. Julian Simon Fellow at the Property and Environment Research Center, visiting fellow at AEI, winner of the Julian Simon Prize and Award. PhD, MS, electrical engineering, MSU. B.Tech in electrical engineering, Indian Institute of Tech. (Indur, “Have increases in population, affluence and technology worsened human and environmental well-being?” 2009, http://www.ejsd.org/docs/HAVE\_INCREASES\_IN\_POPULATION\_AFFLUENCE\_AND\_TECHNOLOGY\_WORSENED\_HUMAN\_AND\_ENVIRONMENTAL\_WELL-BEING.pdf, AMiles)

Although global population is no longer growing exponentially, it has quadrupled since 1900. Concurrently, affluence (or GDP per capita) has sextupled, global economic product (a measure of aggregate consumption) has increased 23-fold and carbon dioxide has increased over 15-fold (Maddison 2003; GGDC 2008; World Bank 2008a; Marland et al. 2007).4 But contrary to Neo- Malthusian fears, average human well-being, measured by any objective indicator, has never been higher. Food supplies, Malthus’ original concern, are up worldwide. Global food supplies per capita increased from 2,254 Cals/day in 1961 to 2,810 in 2003 (FAOSTAT 2008). This helped reduce hunger and malnutrition worldwide. The proportion of the population in the developing world, suffering from chronic hunger declined from 37 percent to 17 percent between 1969–71 and 2001–2003 despite an 87 percent population increase (Goklany 2007a; FAO 2006).

#### No grid-scale power storage – aff can’t gain cost parity

Maryniak 7/20, Gregg, Chairman of the Energy and Environmental Systems Track of Singularity University and the Secretary of the X PRIZE, 7/20/2012, Storage, Not Generation, is the Challenge to Renewable Energy, <http://www.forbes.com/sites/singularity/2012/07/20/storage-not-generation-is-the-challenge-to-renewable-energy/?utm_source=dlvr.it&utm_medium=twitter>

If you read newspapers, blogs and other popular reports on renewable energy, you are very likely hearing almost exclusively about power generation advances in solar cell or wind turbine efficiency or ways to reduce production costs. But exciting as these steps are, an examination of where our energy comes from today shows that even after decades of improvement in renewable energy systems, more than 95% of the energy in the United States is still provided by fossil fuels, nuclear power and traditional hydropower. So, what is missing from the present picture that could dramatically advance the use of renewable energy? Economical energy storage.¶ The phenomenon of the world’s so-called addiction to fossil fuels is actually an aspect of a greater underlying energy truth. What society really wants and needs is energy on demand.¶ Some of my colleagues have observed the significant drop in capital costs of solar cells in recent years and concluded that the energy problem is solvable, if not essentially solved. Many have suggested that we are now within a few cost factors of achieving renewable energy cost-parity with coal. While it is absolutely essential that we continue to drive down the costs of generating electricity from solar (and wind, which is indirect solar energy,) doing so alone will not make these renewable energy sources competitive with traditional hydro, fossil or nuclear generated electricity. What will enable renewables to assume the lion’s share of society’s energy generation portfolio is making that energy available wherever and whenever it is needed. Transforming the energy situation so that renewables provide the majority of the world’s usable power requires one essential missing element: energy storage.¶ Storage breaks out into two domains with radically different characteristics. First, is portable storage, specifically batteries, of the sort that we use for our laptops and mobile phones. Large markets for portable devices have driven significant performance improvements in rechargeable batteries. However, if we really want to transform the energy sector in a meaningful way, it will require attention to the other relatively ignored storage domain: grid scale power storage.¶ Today there is basically only one way to economically store electrical power at scale – essentially pumping water uphill to high elevation reservoirs during off peak periods. When energy demand is high, the water is allowed to run back downhill through turbines. While fairly efficient, as it gets back about 70% of the energy you put in, the number of places where this technique can be used is limited by geography. Another possibility under study in various parts of the world, is compressing large volumes of air into caverns, salt domes or other subterranean features and retrieving energy from the released atmosphere as it escapes. This method is also obviously limited by terrain and geography.¶ What we urgently need is a means of storing energy at large scale and low cost that can be adapted anywhere. And it’s important not to confuse lightweight mobile energy storage with large scale stationary storage. I recently watched some very smart students at an excellent unnamed university (whose initials are MIT) as they found themselves trapped by the Silicon Valley product mindset that all consumer products should be small and lightweight in the design style of iPods. They tried to force a household energy storage system to be a refrigerator-sized appliance. In doing so, they lost track of the most essential characteristic of a large-scale energy storage system: it must be cheap.¶ But just down the hall at MIT, Professor Don Sadoway is telling his students that “to make an energy storage system as cheap as dirt, it should be made from dirt.” Sadoway observed that the electrochemical methods used to make aluminum are similar in many respects to batteries. He and his students are now developing systems for grid-scale storage. Their new Liquid Metal Battery Corporation is attracting investors that include Bill Gates and Vinod Khosla.¶ If solar and wind power are to break out of their present tiny niche positions, they will need to achieve systems parity with traditional energy supplies. This means that the cost of conversion plus the cost of storage will have to be similar to the cost of providing energy on demand from the energy stored in chemical or nuclear fuels. You can find some pretty shrill Internet rhetoric suggesting that the requirement for power on-demand (what the industry calls “baseload power”) is an irrelevant argument concocted by “renewables deniers.” But the reality is that many solar energy pioneers themselves say that solar power will be severely limited in market penetration, unless competent energy storage is developed.¶ Our present fixation with energy generation ignores the “time value of energy.” Instead of concentrating all of our efforts on generation we need to pay increased attention to energy storage. Only after the cost of generation and storage of renewable energy matches the cost of on-demand generation from fossil, nuclear and hydro we will we see a transformation of the energy industry.

#### Solar costs can’t go lower – it’s already heavily subsidized and learning efficiencies are maxed out

Zycher 12, Benjamin, senior fellow at the Pacific Research Institute, the President of Benjamin Zycher Economics Associates, and an adjunct Professor of Economics and Business at the Martin V. Smith School of Business and Economics, California State University, Wind and solar power, part II: How persuasive are the rationales?, January 17, 2012, http://www.aei.org/outlook/energy-and-the-environment/alternative-energy/wind-and-solar-power-part-ii-how-persuasive-are-the-rationales/

The public subsidies that support wind and solar power in America are fueled by a set of rationales that are superficially appealing but deeply problematic.¶ Supporters say renewables need subsidies because they are an “infant industry” or because they need to “level the playing field” with conventional sources. But the data show that **scale and learning efficiencies are very unlikely and that solar and wind already receive the highest levels of taxpayer assistance**.¶ **Unreliable** wind and **solar sources require backup power generation—a dual setup that imposes costs higher than the adverse environmental effects of conventional sources alone.** ¶ The hoped-for creation of “green jobs” confuses benefits for special interests with costs for the whole economy. The net effect would be a reduction in overall employment.¶ As illustrated in the first in this series of Outlooks (No. 1, January 2012), **wind and solar power are proving themselves uncompetitive even with large subsidies, both direct and indirect, at the state and federal levels**. This policy support has yielded only small increases in the supply of electric power, at a very high cost. And so, a fortiori, the preservation and, perhaps, expansion of that policy support somehow must be justified. The central arguments for this prominent, long-standing support are numerous and varied but generally fall into the following categories:¶ • renewable energy as an “infant industry”;¶ • offsets for the subsidies enjoyed by conventional generation;¶ • the adverse environmental effects of conventional generation;¶ • resource depletion, or “sustainability”; and¶ • renewable electricity as a source of expanded “green” employment.¶ The Infant Industry Argument¶ This argument begins with the assumption that new technologies often cannot compete with established ones because the initial available market is too small for important scale economies to be exploited and because the downward shifts in costs that might result from a learning process, again, cannot be achieved without substantial expansion in market share. Accordingly, policy support for expansion of the newcomers’ share of the market is justified by supporters as a tool with which to allow the achievement of both scale and learning efficiencies.¶ One obvious problem with this argument is that **the market for electric power already has several competing technologies, each of which began with a small market share**, as is the case with all new technology. More generally, many industries employing competing technologies are characterized by the presence of scale economies, learning efficiencies, or both, but market forces operating through domestic and international capital markets provide investment capital in anticipation of future cost savings and higher economic returns. Accordingly, the infant industry argument is a non sequitur: **the market can foresee the potential for scale and learning efficiencies and invest accordingly**. No efficiency rationale for subsidies or other policy support follows from this argument.¶ In any event, the narrower issue is whether important learning or scale efficiencies remain available to be exploited for cost reductions for wind or solar generation. The pattern of average costs over time, controlling for the size of projects, should yield inferences about the remaining importance of learning efficiencies; if the infant industry argument is correct, we should observe in the data over the last decade or two declining costs for renewable electricity. For wind generation, the US Department of Energy (DOE) reports data on average project cost per megawatt (MW) over time, beginning in the early 1980s.¶ These data, while somewhat crude, show a rough pattern of declining average costs from the 1980s through about 2001 and then rising average costs through 2009: from about $4,800 per MW in 1984 to about $1,300 per MW in 2001, rising to about $2,100 in 2009, all in constant 2009 dollars. Because these data are weighted by capacity, the rising average costs per wind MW after 2000–01 suggest that further learning efficiencies no longer are available to be exploited unless, perhaps, future technological advances are made.¶ Other DOE data are available on average costs by project size for wind projects installed in 2007–09. The short period reduces the likely impact of learning efficiencies, yielding important information about the availability of scale economies. The data show that scale economies are important for only small wind projects (about $2,700 per MW for projects smaller than 5 MW) and that constant or slightly increasing average costs (about $1,800-$2,000 per MW) characterize projects larger than about 20 MW.¶ Reliable time-series data on costs for photovoltaic and thermal solar systems are more difficult to find; perhaps the only consistent series is provided by the US Energy Information Administration (EIA) for 2000–09.1 These data show a decline in costs per MW for both photovoltaic and thermal systems early in the decade, suggesting the exploitation of learning efficiencies and, perhaps, the use of more suitable (that is, lower-cost) sites. The data show also **an increase in costs** per MW after 2002; this **suggests that no further learning efficiencies are available to be exploited, that the problem of rising site costs is significant, or both**.2 On the other hand, a different DOE data analysis for photovoltaics only shows a decline in the capacity-weighted average installed cost between 1998 and 2008, from $10.80 per watt (2008 dollars) to $7.50 per watt. In short, the data are mixed in the case of solar generation systems. The infant industry assumption of significant learning and scale economies as a barrier to adoption of renewable technologies at best is far from obviously correct.¶ Leveling the Playing Field¶ The second central argument made in favor of policy support for renewables is essentially a level-playing-field premise: because conventional generation benefits from important tax preferences and other policy support, renewables cannot compete without similar treatment. A recent EIA analysis presents data that we can use to compare federal subsidies and support per megawatt hour (mWh) produced by different technologies.3 These data are presented in table 1.4 ¶ These data show that federal solar and wind subsidies in fiscal year 2010 were far higher—by two or three orders of magnitude—than those enjoyed by fossil fuels, nuclear, or hydroelectric generation. Accordingly, solar and wind technologies clearly are not at a competitive disadvantage because of subsidies enjoyed by conventional generation; quite the reverse is true.

# Prices DA

## 1NC

#### Plan raises electricity prices—kills the manufacturing sector

Álvarez 6 (Gabriel Calzada, Associate Professor at Universidad Rey Juan Carlos in Madrid, “BEFORE THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS HEARINGS ON “CLIMATE CHANGE AND ENSURING THAT AMERICA LEADS THE CLEAN ENERGY TRANSFORMATION””, 8/6, http://www.instituteforenergyresearch.org/pdf/Calzada%20EPW%20Testimony%20Aug%206%202009.pdf)

To pay for this experiment, Spanish citizens must therefore cope with either an increase of electricity rates or increased taxes (and public deficit), **as will the U.S. if it follows Spain’s model.** The price of a comprehensive electricity rate (paid by the end consumer) in Spain would have to be 5 increased 31% to repay the historic debt generated by this rate deficit mainly produced by the subsidies to renewables, according to Spain’s energy regulator.¶ Renewables consume enormous taxpayer resources. In Spain, the average annuity payable to renewables is equivalent to 4.35% of all VAT collected, 3.45% of the household income tax, or 5.6% of the corporate income tax for 2007.¶ The regulator should consider whether citizens and companies need expensive and inefficient energy—a factor of production usable in virtually every human project—or affordable energy to help overcome the economic crisis instead. ¶ The Spanish system also jeopardizes conventional electricity facilities, which are the first to deal with the electricity tariff deficit that the State owes them. During this period, renewable technologies remained the beneficiaries of new credit while others began to struggle, though this disparate treatment was solely due to subsidies, mandates and related programs. As soon as subsequent programmatic changes take effect, which has become necessary due to “unsustainable” solar growth, its credit will also cease. ¶ Principally, the high cost of electricity affects costs of production and employment levels in metallurgy, non-metallic mining and food processing, beverage and tobacco industries.¶ **The high cost of electricity due to the green job policy tends to drive the relatively most electricity-intensive companies and industries away, seeking areas where costs are lower**. The example of the stainless steel manufacturer Acerinox, which exported its growth from Europe to Kentucky thereby creating U.S. and not European manufacturing jobs, is just such a case. I am surprised that the United States, which has seen the benefits of lower electricity prices in attracting business investment and jobs from other countries, **would be considering a similar course and expecting a different result.**

#### That’s key to competitiveness

DoC 12 (U.S. Department of Commerce in consultation with the National Economic Council, January 2012, "The Competitiveness and InnovativeCapacity of the United States www.commerce.gov/sites/default/files/documents/2012/january/competes\_010511\_0.pdf)

**A flourishing manufacturing sector in the United States is crucial to its future competitive strength**. Throughout its history, manufacturing has been a source of prosperity, innovation, and pride for the United States. **Manufacturing pays higher than average wages, provides the bulk of U.S. exports, contributes sub‐ stantially to U.S. R&D, and protects national security.**¶Manufacturing remains a vital part of the U.S. economy. In 2009, manufacturing made up 11.2 percent of gross domestic product (GDP) 1 and 9.1 percent of total U.S. employment, 2 directly employing almost 12 million workers. This sector also has indirect employment effects on other sectors of the U.S. economy when it purchases inputs for production such as raw materials (such as from the agricul‐ tural and mining sectors), buildings (from the construction and real estate sec‐ tors), and services (including warehousing and transportation; professional, scientific, and technical services; and financial services). In these ways, manufac‐ turing supports millions of additional supply chain jobs across the economy.¶ In addition, many of the jobs provided by this sector are high quality. Total hourly compensation in the manufacturing sector is, on average, 22 percent higher than that in the services sector and about 91 percent of factory workers have em‐ ployer‐provided benefits compared to about 71 percent of workers across all pri‐ vate sector firms. 3¶ **Manufacturing is also the largest contributor to U.S. exports**. In 2010, the United States exported over $1.1 trillion of manufactured goods, which accounted for 86 percent of all U.S. goods exports and 60 percent of U.S. total exports (see figure 6.1). In order to support millions more jobs, President Obama’s National Export Initiative set the ambitious goal of doubling U.S. exports by the end of 2014. Moreover, the United States runs a trade surplus in the services sector, a surplus that has tripled since 2003 4 ; however, though the services sector will continue to be important, increases in services alone will not likely double U.S. exports by 2014. Indeed, **without a strong manufacturing sector, the U.S. trade surplus in services may erode** (see box 6.1).¶ A strong manufacturing sector is also crucial because successful innovation in many sectors is closely linked to the ability to manufacture products as innova‐ tive methods and ideas are generated and perfected through the process of mak‐ ing things. In the recent Report to the President on Ensuring American Leadership in Advanced Manufacturing, 5 the President’s Council of Advisors on Science and Technology (PCAST) and the President’s Innovation and Technology Advisory Committee (PITAC) emphasize the critical importance of advanced manufacturing in driving knowledge production and innovation in the United States. The PCAST researched the current state of manufacturing and concluded that U.S. leader‐ ship in manufacturing is declining and that this is detrimental **to the well‐being of the nation overall**. **Manufacturing companies in the United States are responsible for over two‐thirds of the industrial R&D6 and employ the majority of domestic scientists and engineers.**7 Furthermore, manufacturing R&D is the dominant source of innovative new service‐sector technologies, 8 hence its benefits reach beyond the manufacturing arena. The colocation of manufacturing, research, and other sectors can also be impor‐ tant. In its recent report the PCAST states: “Proximity is important in fostering in‐ novation. When different aspects of manufacturing—from R&D to production to customer delivery—are located in the same region, they breed efficiencies in knowledge transfer that allow new technologies to develop and businesses to in‐ novate.” 9 Thus, even if R&D facilities are kept in the United States, the **relocation of manufacturing facilities overseas may limit the United States’ ability to innovate.** ¶Finally, an innovative and secure domestic manufacturing base is critical to national security. **An inability to produce domestically the advanced defense systems of the modern military would put the national security of the United States at risk**. As its military comes to rely more heavily on complex and advanced technology systems, it is important that the United States retain the manufactur‐ ing capacity and knowledge necessary to produce these goods. Our continued se‐ curity not only rests on the ability to produce military products, but we must also consider how the sourcing of all critical infrastructure components, from commu‐ nications equipment to power generation, affects our ability to protect against potentially catastrophic supply chain disruptions.

#### Solves great power war

**Baru 9** Sanjaya is a Professor at the Lee Kuan Yew School in Singapore Geopolitical Implications of the Current Global Financial Crisis, Strategic Analysis, Volume 33, Issue 2 March 2009 , pages 163 – 168

Hence, economic policies and performance do have **strategic consequences.**2 In the modern era, the idea that strong economic performance is the **foundation of power** was argued most persuasively by historian Paul Kennedy. 'Victory (in war)', Kennedy claimed, 'has repeatedly gone to the side with more flourishing productive base'.3 Drawing attention to the interrelationships between economic **wealth, technological innovation, and the ability of states to** efficiently **mobilize economic and technological resources for power projection and national defence**, Kennedy argued that nations that were able to better combine military and economic strength scored over others. 'The fact remains', Kennedy argued, 'that all of the major shifts in the world's military-power balance have followed alterations in the productive balances; and further, that the rising and falling of the various empires and states in the international system has been confirmed by the outcomes of the **major Great Power wars**, where victory has always gone to the side with the greatest material resources'.4 In Kennedy's view, the geopolitical consequences of an economic crisis, or even decline, would be transmitted through a nation's inability to find adequate financial resources to simultaneously sustain economic growth and **military power**.

## 2NC

#### Even with rising gas prices, more than enough new gas-fired capacity will come online to replace coal retirements

Kari Lydersen 12, Midwest Energy News, April 17, 2012, “Is natural gas killing coal?,” online: http://www.midwestenergynews.com/2012/04/17/is-natural-gas-killing-coal/

Coal industry proponents have said the closing of coal plants will mean energy shortages and/or rate increases in coming years. New natural gas plants will not be built quickly enough to pick up the slack, they argue, especially if the price of natural gas rises from the current cost of about $2 per MMBtu to $7 per MMBtu by 2035, as the Energy Information Administration (EIA) has projected.

“Just given the history of volatility in the natural gas markets, there is some residual concern,” said Jeffrey R. Holmstead, a former assistant administrator for the U.S. EPA for Air and Radiation, who now heads the Environmental Strategies Group at the public relations firm Bracewell-Giuliani, which advocates for the coal industry.

“I think everybody believes that natural gas prices will go up from where they are today,” he said. “One of the big issues with the EPA rules is that with all these coal plants coming off-line in 2015, even if natural gas prices are reasonable we just don’t have the pipeline capacity to get it where you need it.”

Holmstead and others have raised concerns that new pollution rules will lead to power outages, but the EPA has maintained reliability won’t be compromised.

The EIA predicted in 2011 that at least 216 gigawatts of generating capacity will be added by 2035, compared to 42 gigawatts of coal power going off-line in coming years.

The agency projected that the share of electricity generated by natural gas will increase from 24 percent in 2010 to 27 percent by 2035, while renewables (including hydro) will increase from 10 to 16 percent and coal’s share will fall from 45 to 39 percent. This was before the proposed EPA rules on greenhouse gas emissions, which could prevent almost all new coal plants.

#### The plants that can’t afford to comply with MATS would close because of low gas prices anyways

Kari Lydersen 12, Midwest Energy News, April 17, 2012, “Is natural gas killing coal?,” online: http://www.midwestenergynews.com/2012/04/17/is-natural-gas-killing-coal/

As an increasing number of older coal-fired power plants are shutting down, the reasons seem to vary depending on whom you ask.

In news releases, power company officials are quick to blame environmental regulations, while acknowledging that low demand for power and cheap natural gas prices are also major factors. Meanwhile, environmentalists point to grassroots opposition to coal power and say plant operators have failed to adequately prepare for new rules they knew were coming.

Ultimately, energy markets are complex, and defy simple explanations. All of these factors play a role in the closing of coal plants, with the unexpected boom in shale gas production exacerbating market and regulatory trends that were already underway.

Natural gas prices are hovering at a very cheap $2 per MMBtu this spring – and gas is so abundant and cheap that drillers are cutting back on production. Natural gas plants emit almost no harmful toxins, and because of their much lower carbon emissions can meet the recently-announced Environmental Protection Agency proposed greenhouse gas standards that – if adopted – would mean virtually no new conventional coal plants could be built.

The proposed EPA standards don’t affect existing power plants, but the past two years have also seen the closing or announced closing of more than 100 older coal-fired power plants.

In many cases the natural gas factor and low electricity demand hastened the demise of plants that were scheduled to close at later dates when environmental regulations kicked in. Many plants cannot comply with the new Mercury and Air Toxics Standards (MATS) and the Cross-State Air Pollution Rule (CSAPR) without expensive new pollution control equipment that would make them unprofitable to run.

For example, Dominion had originally planned to close its State Line Power Station just outside Chicago at the end of 2014 rather than comply with environmental regulations, but bumped up the date to this spring because it could no longer compete with natural gas.

#### Higher prices mean FITs kill the economy

Frondel et al 09 (Manuel Frondel received a diploma in Physics and Economic Engineering and is Professor at Ruhr-University Bochum, Colin Vance is an environmental economist at RWI , Nolan Ritter, RWI Essen, non-profit economic research institution in Germany, “Economic impacts from the promotion of renewable energies: The German experience”, http://www.instituteforenergyresearch.org/germany/Germany\_Study\_-\_FINAL.pdf)

While such projections convey seemingly impressive prospects for gross employment growth, they obscure the broader implications for economic welfare by omitting any accounting of off-setting impacts. The most immediate of these impacts are job losses that result from the crowding out of cheaper forms of conventional energy generation, along with indirect impacts on upstream industries. Additional job losses will arise from the drain on economic activity precipitated by higher electricity prices. In this regard, even though the majority of the German population embraces renewable energy technologies, two important aspects must be taken into account. First, the private consumers’ overall loss of purchasing power due to higher electricity prices adds up to billions of Euros. Second, with the exception of the preferentially treated energy-intensive firms, the total investments of industrial energy consumers may be substantially lower. Hence, by constraining the budgets of private and industrial consumers, increased prices ultimately divert funds from alternative, possibly more beneficial, investments. The resulting loss in purchasing power and investment capital causes negative employment effects in other sectors (BMU 2006:3), **casting doubt on whether the EEG’s employment effects are positive at all.**

#### It more than doubles prices

IER 12 (Institute for Energy Research, “Solar Subsidies Make Electricity Bills More Expensive”, 7/19, http://www.instituteforenergyresearch.org/2012/07/19/13253/)

Most importantly, Germany’s solar subsidies have been expensive with little evidence to prove they are worth the cost. Last year, over €8 billion ($10.2 billion) was paid out to German solar farm operators and homeowners with solar panels, but only 3.3 of the country’s power supply was generated by solar in the same time period.[v]¶ Two decades of highly-subsidized renewable energy have had a noticeable effect on the country’s electricity prices. Currently, Germany’s solar feed-in tariffs vary from $0.166 per kWh on the low end to $0.297 per kWh on the high end, which makes it $0.2315 per kWh on average.[vi] This represents a large portion of the price of residential electricity: an average customer in Germany pays about $0.3523 per kWh (€0.2781) of electricity used.[vii]¶ **Those who believe that the United States should emulate Germany’s model should consider the following:** 35 cents per kWh for electricity is three times as much as U.S. customers paid on average for electricity last year (11.8 cents per kWh).[viii]**Germany’s solar feed-in tariff alone is 41-152% greater than US total residential electricity rates.** Germans also have the 2nd highest electricity prices in Europe—outdone only by wind-dependent Denmark—and this situation will inevitably be made worse by the fact that Germany has pledged to phase out nuclear energy and become more reliant on renewable energy sources.[ix]

# Cap and Trade

## 1NC

#### TEXT: The United States federal government should establish a cap-and-trade system for carbon emissions in the United States. The federal government should reduce the corporate income tax and business capital-gains taxes

#### The United States federal government should phase out all energy subsidies.

#### Targeting specific industries and technology fails---cap and trade is key to market-based solutions that solve the case better

Morris et al 12 Adele C. Morris, Fellow and Deputy Director of the. Climate and Energy Economics project at Brookings, Pietro S. Nivola, Charles Schultze, Brookings Scholars, "CLEAN ENERGY:REVISITING THE CHALLENGES OF INDUSTRIAL POLICY" June 4 www.brookings.edu/~/media/research/files/papers/2012/6/04%20clean%20energy%20morris%20nivola%20schultze/04\_clean\_energy\_morris\_nivola\_schultze.pdf

Public investments of these magnitudes, targeted at specific industries, arguably constitute an industrial policy, albeit a sectoral one, unlike the earlier proposals of the 1980's —that is, a government strategy to steer resources toward select producers or technologies. The rationale and efficacy of these clean-energy expenditures call for scrutiny.

Proponents offer numerous reasons for scaling up particular energy technologies at the taxpayer's expense. One set of reasons involves the need to remediate market failures that have not been corrected by other policies. For example, clean-energy technologies are said to emit fewer greenhouse gases than do traditional sources per unit of energy produced. The United States does not have an economy-wide policy to control greenhouse gases, most notably, one that puts a price on C02 that reflects the environmental harm associated with use of fossil fuels.

A far more effective policy than subsidies for clean energy research, development and demonstration would be a tax or a cap-and-trade regime that would put an appropriate price on carbon and other greenhouse gases. Properly implemented, this alternative approach would help level the playing field for greener energy sources, for it would require emitters to pay prices that reflect the costs their emissions impose on society. The enhanced efficiency that would result has been widely recognized by economists.6 True costs would flow to purchasers of goods and services that require energy, suitably inducing conservation. Emitters would have incentives to invest in equipment and new production techniques, use alternative fuels, and seek other methods to reduce emissions. And America's innovators would channel their efforts into inventing, scaling up, and marketing competitive forms of clean energy. However, because existing market signals do not suffice to encourage climate-friendly technologies, carefully targeted federal funding seems warranted. But as we explain later, it is ironically only after incorporating the social costs of energy into market prices that many clean energy subsidies will succeed in deploying new technologies.

#### Subsidy and incentive elimination levels the playing field---allows a free market approach to energy policy

WSJ 12 "The Energy Subsidy Tally" Aug 18 lexis

So for every tax dollar that goes to coal, oil and natural gas, wind gets $88 and solar $1,212. After all the hype and dollars, in 2010 wind and solar combined for 2.3% of electric generation -- 2.3% for wind and 0% and a rounding error for solar. Renewables contributed 10.3% overall, though 6.2% is hydro. Some "investment."

Zooming out for all energy, the Congressional Research Service did its own analysis of tax incentives last year. It found that in 2009 fossil fuels accounted for 78% of U.S. energy production but received only 12.6% of tax incentives. Renewables accounted for 11% of energy production but received 77% of the tax subsidies -- and that understates the figure because it leaves out direct spending.

By the way, these subsidy comparisons don't consider that the coal, oil, and natural gas industries paid more than $10 billion of taxes in 2009. Wind and solar are net drains on the Treasury.

All of this suggests a radical idea. Why not eliminate all federal energy subsidies? This would get the government out of the business of picking winners and losers -- mostly losers.

Mr. Obama's plan to eliminate oil and gas subsidies would lower the budget deficit by less than $3 billion a year, but creating a true level playing field in energy, and allowing markets to determine which energy sources are used, would save $37 billion. That's an energy plan that makes sense.

## 2NC

#### No double solvency—perm leads to energy crowd-out

Frondel et al 09 (Manuel Frondel received a diploma in Physics and Economic Engineering and is Professor at Ruhr-University Bochum, Colin Vance is an environmental economist at RWI , Nolan Ritter, RWI Essen, non-profit economic research institution in Germany, “Economic impacts from the promotion of renewable energies: The German experience”, http://www.instituteforenergyresearch.org/germany/Germany\_Study\_-\_FINAL.pdf)

Given the substantial cost associated with Germany’s promotion of renewable technologies, one would expect significantly positive impacts on the environment and economic prosperity. Unfortunately, the mechanism by which Germany promotes renewable technologies confers no such benefits. ¶ 4.1 Climate ¶ With respect to climate impacts, the prevailing coexistence of the EEG and the ETS means that the increased use of renewable energy technologies attains no additional emission reductions beyond those achieved by ETS alone. In fact, the promotion of renewable energy technologies ceteris paribus reduces the emissions of the electricity sector so that obsolete certificates can be sold to other industry sectors that are involved in the ETS. As a result of the establishment of the ETS in 2005, the EEG’s true effect is merely a shift, rather than a reduction, in the volume of emissions: Other sectors that are also involved in the ETS emit more than otherwise, thereby outweighing those emission savings in the electricity sector that are induced by the EEG (BMWA 2004:8). ¶ In the end, cheaper alternative abatement options are not realized that would have been pursued in the counterfactual situation without EEG: **Very expensive abatement options such as the generation of solar electricity simply lead to the crowding out of cheaper alternatives.** In other words, since the establishment of the ETS in 2005, **the EEG’s net climate effect has been equal to zero** 1.¶ These theoretical arguments are substantiated by the numerical analysis of Traber and Kemfert (2009:155), who find that while the CO2 emissions in Germany’s electricity sector are reduced substantially, the emissions are hardly altered at the European scale by Germany’s EEG. This is due to the fact that Germany’s electricity production from renewable technologies mitigates the need for emission reductions in other countries that participate in the ETS regime, thereby significantly lowering CO2 certificate prices by 15% relative to the situation without EEG (Traber, Kemfert 2009:169). In essence, this permit price effect would lead to an emission level that would be higher than otherwise if it were not outweighed by the substitution effect, that is, the crowding out of conventional electricity production through CO2-free green technologies.

#### Doesn’t result in less emissions

Frondel et al 09 (Manuel Frondel received a diploma in Physics and Economic Engineering and is Professor at Ruhr-University Bochum, Colin Vance is an environmental economist at RWI , Nolan Ritter, RWI Essen, non-profit economic research institution in Germany, “Economic impacts from the promotion of renewable energies: The German experience”, http://www.instituteforenergyresearch.org/germany/Germany\_Study\_-\_FINAL.pdf)

First, as a consequence of the prevailing coexistence of the Renewable Energy Sources Act (EEG) and the EU Emissions Trading Scheme (ETS), the increased use of renewable energy technologies triggered by the EEG does not imply any additional emission reductions beyond those already achieved by ETS alone. This is in line with Morthorst (2003), who analyzes the promotion of renewable energy usage by alternative instruments using a three-country model. This study’s results suggest that renewable support schemes are questionable climate policy instruments in the presence of the ETS.

#### Cap and trade allows a portfolio of options---best approach

Taylor 8 Jerry and Peter Van Doren, CATO, The Case against Government Support for Alternative Energy, http://knol.google.com/k/jerry-taylor/should-there-be-a-system-of-federal/1adq09v7leuu4/3#

There are many ways to reduce greenhouse gas emissions. Substituting wind and solar energy for coal or natural gas is one way. Substituting nuclear energy for the same is another. Sequestering carbon emissions from fossil fuel plants is another possibility. Using conventional energy sources at much reduced volumes – via energy efficiency and conservation – is yet another possibility. Beyond that, removing greenhouse gases from the atmosphere by expanding forests and other carbon sinks is a possible alternative to mitigation, as are geo-engineering possibilities that rely upon more direct human intervention in the atmosphere. What is the most cost-effective way to do what Joe proposes – that is, to stop global warming (or, more accurately, to reduce future warming)? Who knows? Government subsidies and/or regulatory preferences to produce “clean energy” (at least, as defined by Joe – nuclear energy seems pretty clean to us but probably isn’t what Joe is talking about) simply rigs the market to favor one approach over alternative approaches. Better to internalize the costs of climate change into the price of energy and let market actors figure out how best to reduce emissions. Since government has no comparative advantage in figuring out the most efficient way to go about this, government has no brief for dictating answers to the market.

#### Free market energy key to solving energy prices and growth

Loris 11 Nicolas Loris is a policy analyst in the Thomas A. Roe Institute for Economic Policy Studies at The Heritage Foundation. "No More Energy Subsidies: Prevent the New, Repeal the Old" July 26 www.heritage.org/research/reports/2011/07/no-more-energy-subsidies-prevent-the-new-repeal-the-old

Are Americans energy dependent? Yes—dependent on government energy subsidies. In 2007, American taxpayers subsidized government-preferred energy sources to the tune of nearly $17 billion. Increasingly, it is politicians in Washington who decide how Americans produce and consume energy. But subsidies for special interests stifle competition, raise energy prices, and decrease economic opportunities. It is time for Washington to eliminate all government subsidies and special policy treatments that benefit certain industries at the expense of others. Energy companies should rely on innovation and efficiency, not American taxpayers, to thrive in a system of free enterprise.

Americans are becoming too energy dependent. But it is not dependence on foreign sources of energy that is the problem; it is growing dependence on the federal government. According to the Energy Information Administration, the United States spent $8.2 billion on energy subsidies in 1999. That spending more than doubled to $16.6 billion in 2007, and with the stimulus funding and other provisions, it promises to have a much higher price tag in the years ahead. With direct expenditures, targeted tax breaks, mandates, loan guarantees, and other preferential treatment, Washington is deciding how Americans produce and consume energy. Increasing America’s access to energy resources creates competition, lowers prices, drives innovation, and creates economic opportunity. Subsidies do the opposite. Congress should make it a priority to ensure that no new subsidies are put in place and remove the ones already in place

#### The counterplan reduces emissions at one-thirtieth of the cost

Frondel et al 09 (Manuel Frondel received a diploma in Physics and Economic Engineering and is Professor at Ruhr-University Bochum, Colin Vance is an environmental economist at RWI , Nolan Ritter, RWI Essen, non-profit economic research institution in Germany, “Economic impacts from the promotion of renewable energies: The German experience”, http://www.instituteforenergyresearch.org/germany/Germany\_Study\_-\_FINAL.pdf)

These estimates presented in the previous section clearly demonstrate that producing electricity on the basis of renewable energy technologies is extremely costly. As a consequence, these technologies are far from being cost-effective climate protection measures. In fact, PV is among the most expensive greenhouse gas abatement options: Given the net cost of 41.82 Cents (Cents 63.00 US $) per kWh for modules installed in 2008 (Table 4), and assuming that PV displaces conventional electricity generated from a mixture of gas and hard coal with an emissions factor of 0.584 kg carbon dioxide (CO2) per kWh (Nitsch et al. 2005:66), then dividing the two figures yields abatement costs that are as high as 716 € (1,050 US$) per tonne. ¶ The magnitude of this abatement cost estimate is in accordance with the IEA’s (2007:74) even larger figure of around 1,000 € per tonne, which results from the assumption that PV replaces gas-fired electricity generation. Irrespective of the concrete assumption about the fuel base of the displaced conventional electricity generation, abatement cost estimates are dramatically larger than the current prices of CO2 emission certificates: Since the establishment of the European Emissions Trading System (ETS) in 2005, the price of certificates has never exceeded 30 € per tonne of CO2. ¶ Although wind energy receives considerably less feed-in tariffs than PV, it is by no means a cost-effective way of CO2 abatement. Assuming the same emission factor of 0.584 kg CO2/kWh as above, and given the net cost for wind of 3.10 Cents (Cents 4.6 US $) per kWh in 2008 (Table 6), the abatement cost approximate 54 € (US$ 80) per tonne. While cheaper than PV, this cost is still nearly double the price of certificates in the ETS. In short, from an environmental perspective, it would be economically much more efficient if greenhouse gas emissions were to be curbed via the ETS, rather than by subsidizing renewable energy technologies such as PV and wind power. After all, it is for efficiency reasons that emissions trading is among the most preferred policy instruments for the abatement of greenhouse gases in the economic literature.

#### The system lowers energy prices---one way or another cost reductions get passed on to consumers

Krugman 9 Paul, Prof Econ, Nobel Prize, "Pigou, Glenn Beck, and the false case against cap-and-trade" Sept 25 krugman.blogs.nytimes.com/2009/09/25/pigou-glenn-beck-and-the-false-case-against-cap-and-trade/

Basic economics says that if we want to discourage a negative externality, like pollution, we need to put a price on that externality. One way is through an emissions tax; an alternative, with very similar economic results, is a system of tradable permits. All this goes back to Pigou; Greg Mankiw has urged economists to join his Pigou Club of those who support externality taxes.

Now, a key point in all this is that the emissions tax or, equivalently, the rent on emissions permits, does not represent a net loss to society. It’s just a transfer from one set of people to another — from the emitters, and ultimately those who buy their products, to whoever collects the taxes or gets the permits, and ultimately whoever benefits from the revenue or rents thus generated. The only net loss is the Harberger triangle created by the reduction in emissions — which has to be set against the benefits of reduced pollution.

And the burden on households from cap and trade depends on what’s done with the rents. In the original Obama plan, the rents would be used to pay for middle-class tax cuts; in Waxman-Markey, many of the permits are initially granted to utilities — but since these utilities’ profits are regulated, many of the rents would end up being passed on to consumers through lower prices. Enter Glenn Beck. He picked up on a calculation by a conservative blogger who took a guess about the rents on emissions permits and assumed that all of this would amount to a tax on families. (Beck then added his own special sauce by misreporting the blogger’s speculations as a “buried” Obama report.)

#### It’s an economic boon---california proves

Mielke 12 Mike Mielke is senior director for environmental programs and policy with the Silicon Valley Leadership Group, "Cap-and-trade will encourage move to clean energy" May 23 www.sfgate.com/opinion/openforum/article/Cap-and-trade-will-encourage-move-to-clean-energy-3578154.php

This is the kind of leading-edge policy California has long been known for. Still, some claim cap-and-trade is a tax that will wreck the state's economy. Nothing could be further from the truth, and we should instead concentrate on how to use the funds that will be generated from the program to drive down the cost of replacing our outdated and dirty infrastructure while steering clear of legal challenges.

The Silicon Valley Leadership Group's 375 member companies support using the program funds to help decrease the amount of carbon pollution we generate or to increase the amount we remove from the atmosphere, while also helping ensure our state is prepared for a changing and volatile climate. At its meeting Thursday, I will recommend to the California Air Resources Board that it is particularly important for the state to:

-- Support measures that deliver the greatest pollution reduction across four broad categories: clean and efficient energy, low-carbon transportation, sustainable infrastructure and natural resource protection.

-- Sustain and grow funds by reinvesting returns from projects and technologies to speed the transformation of our energy infrastructure.

-- Provide clear metrics to measure how the cap-and-trade program is helping achieve the goals of AB32.

Solutions like the cap-and-trade program are the most effective way to send clear market signals by creating a financial incentive for reducing pollution and a profit motive for developing clean technologies. As a result, Silicon Valley innovators like SunPower, Solaria, SolarCity, EnerNOC and Silver Spring Networks are creating jobs in research and development, design, production, sales and installation.

Clean energy is one of the bright spots of the California economy. And we believe this future will only get brighter: A recent study by the Analysis Group, a Boston-based consulting firm, showed that the nation's first cap-and-trade program, the Regional Greenhouse Gas Initiative, has created more than 16,000 jobs and has added $1.6 billion in economic value.

# Px

#### Immigration will pass---sustained momentum’s key

Cohen 2/8 Micah is a writer for NYT’s 538 blog. “Signs of a Shift on Immigration Among G.O.P. Rank-and-File,” 2013, http://fivethirtyeight.blogs.nytimes.com/2013/02/08/signs-of-a-shift-on-immigration-among-g-o-p-rank-and-file/

With notable speed after the Nov. 6 presidential election, a number of Republican politicians and opinions makers — from House Speaker John A. Boehner to the talk show host Sean Hannity — altered their positions on immigration and expressed a new openness to comprehensive reform.¶ Since then, **the push to overhaul the nation’s immigration system appears to have sustained momentum.** A new ABC News/Washington Post poll found a jump in public approval of President Obama’s handling of immigration, and most recent polls have found a majority of Americans support providing immigrants who have come here illegally a pathway to United States citizenship.¶ So, has the shift on immigration among some — but not all — Republican legislators, strategists and media personalities filtered down to rank-and-file Republicans?¶ The polling evidence — with a few significant caveats — says “possibly, yes.” There are signs of an uptick in Republican support for a pathway to citizenship, or at least a conditional pathway to citizenship.¶ First, the caveats. Tracking opinions on immigration policy over time is tricky because each pollster asks different questions with different options, making for apples-to-oranges comparisons. In addition, when narrowing the focus to self-identified Republicans and Republican leaners, small sample sizes and large margin of sampling errors become a problem. A typical national survey includes about 1,000 respondents, making the subsample of Republicans pretty small, usually around 200 to 300.¶ But keeping those disclaimers in mind, the most recent polls on immigration suggest an increase in the percentage of Republicans who favor immigration reform that includes a route to United States citizenship.¶ On average, the share of Republicans who favor providing undocumented immigrants with a path to citizenship is 48 percent among the six national polls released so far in 2013 and included in the PollingReport.com database. (The release of a CNN poll conducted Jan. 14-15 did not provide a breakdown by political party and is not included in the average).¶ Among the six previous polls that asked about a pathway to citizenship and released results by party identification, an average of only 38 percent of Republicans favored providing a path to citizenship.¶ Question wording has an effect here. Two of the polls that found the highest level of Republican support emphasized the requirements illegal immigrants might have to meet to become citizens. Conservative voters might be more likely to support a path to citizenship if it involves certain qualifications.¶ For instance, a Fox News poll conducted Jan. 15-17 among registered voters found that 56 percent of Republicans said the government should “allow illegal immigrants to remain in the country and eventually qualify for U.S. citizenship, but only if they meet certain requirements like paying back taxes, learning English, and passing a background check.”¶ And a Gallup poll released this week found that 59 percent of Republicans would vote for “a law that would allow undocumented immigrants living in the United States the chance to become legal residents or citizens if they meet certain requirements.”¶ On the other hand, a CBS News poll of adults conducted Jan. 24-27 found that only 35 percent of Republicans said illegal immigrants currently working in the country “should be allowed to stay in their jobs and to eventually apply for U.S. citizenship.” (CBS found that 25 percent of Republicans said illegal immigrants should be able to stay as guest workers and 36 percent said they should be required to leave the United States).¶ The apples-to-apples comparisons we have are more mixed: Republican support in the mid-January AP/GfK poll jumped to 53 percent from 31 percent in 2010. The latest ABC News/Washington Post poll moved to 42 percent Republican support for a path to citizenship from 37 percent in November 2012 (that’s inside the margin of sampling error). The CBS News poll did not move at all, finding 35 percent Republican support in both its December 2012 and late January 2013 surveys. And Quinnipiac polls, released on Thursday and in early December 2012, both found roughly 40 percent of registered Republicans support a path to citizenship and just more than 10 percent support legal status without citizenship.¶ An uptick in Republican support for a pathway to citizenship could be statistical noise. And even if it is real, it could reverse itself. Some political science research suggests that anti-immigrant attitudes increase when immigration is in the news.¶ But there are reasons to think that immigration, over all, has become less of a hot-button issue. A Pew study found that the number of illegal immigrants living in the United States has dropped since the 2007 push for change. Another Pew survey found that only 44 percent of Republicans see dealing with immigration as a top priority. That’s down from previous peaks of 69 percent in 2007 and 61 percent in 2011.¶ Further polling is needed before a more concrete picture of Republican attitudes emerges. But if Republican voters have warmed to providing a conditional path to citizenship, **it could increase the likelihood of an overhaul becoming law by freeing House Republicans, in particular, to back some kind of reform.**

#### Aff causes a firestorm---drains capital

Mulkern 9 (Anne, "Some daylight at last for US feed-in tariffs," New York Times, March 24,[www.nytimes.com/gwire/2009/03/24/24greenwire-some-see-daylight-at-last-for-us-feedin-tariff-10271.html?pagewanted=all](http://www.nytimes.com/gwire/2009/03/24/24greenwire-some-see-daylight-at-last-for-us-feedin-tariff-10271.html?pagewanted=all" \t "_blank))

Congress does not appear likely to embrace a feed-in tariff anytime soon, however.  "**There is no interest** on the Energy Committee's part to examine the concept of feed-in tariffs," said Bill Wicker, spokesman for the Senate Energy and Natural Resources Committee, the most likely starting place for such discussions. "We believe a better way to accomplish the same goal -- creating a market for renewables -- is with a renewable electricity standard."  That standard would require utilities to generate a portion of their power from green sources. Congress is expected to consider such a mandate as part of an energy or climate bill. Wicker said that passing a renewable electricity standard is a top priority for Energy and Natural Resources Chairman Jeff Bingaman (D-N.M.).  But a congressman with a bill proposing a feed-in tariff believes momentum is building, although the concept will take time to sell.  "We still need to get folks to a basic concept of what it is," said Rep. Jay Inslee (D-Wash.). "Ten percent of the Congress could probably not even tell you what a feed-in tariff is."  Inslee calls the feed-in tariff "the 800-pound gorilla of policies when it comes to really driving the development of these markets."  "It's an idea whose time, I believe, will come," Inslee said. Pressed on the timing, he said it could happen this year, but "I wouldn't bet the farm on it, because it's a new idea, and new ideas take time."  The solar industry has no illusions about winning approval for a feed-in tariff anytime soon, Efird said.  "This is something that has to be proposed, gestated and rejected," Efird said, noting that it took 18 attempts to pass an extension of the renewable-energy tax credit.  "The timing seems right to throw it into the pot for discussion," Efird said. "There is some support for it in Congress."  **There would be much to debate** should Congress consider a feed-in tariff.  The most important question likely would be the rate at which a national tariff is set. Solar producers say it has to be high enough to provide an incentive to install solar systems that cost tens of thousands of dollars for homes and hundreds of thousands of dollars for businesses.

#### PC’s key

Foley 1/15 Elise is a writer @ Huff Post Politics. “Obama Gears Up For Immigration Reform Push In Second Term,” 2013, http://www.huffingtonpost.com/2013/01/15/obama-immigration-reform\_n\_2463388.html

Obama has repeatedly said he will push hard for immigration reform in his second term, and administration officials have said that other contentious legislative initiatives -- including **gun control and the debt ceiling -- won't be allowed to get in the way.** At least at first glance, he seems to have politics on his side. GOP lawmakers are entering -- or, in some cases, re-entering -- the immigration debate in the wake of disastrous results for their party's presidential nominee with Latino voters, who support reform by large measures. Based on those new political realities, "it would be a suicidal impulse for Republicans in Congress to continue to block [reform]," David Axelrod, a longtime adviser to the president, told The Huffington Post.¶ Now **there's the question of how Obama gets there.** While confrontation might work with Republicans on other issues -- the debt ceiling, for example -- the consensus is that the GOP is serious enough about reform that the president can, and must, play the role of broker and statesman to get a deal.¶ It starts with a lesson from his first term. Republicans have demanded that the border be secured first, before other elements of immigration reform. Yet the administration has been by many measures the strictest ever on immigration enforcement, and devotes massive sums to policing the borders. The White House has met many of the desired metrics for border security, although there is always more to be done, but Republicans are still calling for more before they will consider reform. Enforcing the border, but not sufficiently touting its record of doing so, the White House has learned, won't be enough to win over Republicans.¶ In a briefing with The Huffington Post, a senior administration official said the White House believes it has met enforcement goals and must now move to a comprehensive solution. The administration is highly skeptical of claims from Republicans that immigration reform can or should be done in a piecemeal fashion. Going down that road, the White House worries, could result in passage of the less politically complicated pieces, such as an enforcement mechanism and high-skilled worker visas, while leaving out more contentious items such as a pathway to citizenship for undocumented immigrants.¶ "Enforcement is certainly part of the picture," the official said. "But if you go back and look at the 2006 and 2007 bills, if you go back and look at John McCain's 10-point 'This is what I've got to get done before I'm prepared to talk about immigration,' and then you look at what we're actually doing, it's like 'check, check, check.' We're there. The border is as secure as it's been in a generation or two, so it's really time."¶ One key in the second term, advocates say, will be convincing skeptics such as Republican Sen. John Cornyn of Texas that the Obama administration held up its end of the bargain by proving a commitment to enforcement. **The White House** also **needs to convince GOP lawmakers** that there's support from their constituents for immigration reform, which could be aided by conservative evangelical leaders and members of the business community who are pushing for a bill.¶ Immigrant advocates want more targeted deportations that focus on criminals, while opponents of comprehensive immigration reform say there's too little enforcement and not enough assurances that reform wouldn't be followed by another wave of unauthorized immigration. The Obama administration has made some progress on both fronts, but some advocates worry that the president hasn't done enough to emphasize it. The latest deportation figures were released in the ultimate Friday news dump: mid-afternoon Friday on Dec. 21, a prime travel time four days before Christmas.¶ Last week, the enforcement-is-working argument was bolstered by a report from the nonpartisan Migration Policy Institute, which found that the government is pouring more money into its immigration agencies than the other federal law-enforcement efforts combined. There are some clear metrics to point to on the border in particular, and Doris Meissner, an author of the report and a former commissioner of the U.S. Immigration and Naturalization Service, said she hopes putting out more information can add to the immigration debate.¶ "I've been surprised, frankly, that the administration hasn't done more to lay out its record," she said, adding the administration has kept many of its metrics under wraps.¶ There are already lawmakers working on a broad agreement. Eight senators, coined the gang of eight, are working on a bipartisan immigration bill. It's still in its early stages, but nonmembers of the "gang," such as Sen. Marco Rubio (R-Fla.) are also talking about reform.¶ It's still unclear what exact role the president will play, but sources say he does plan to lead on the issue. Rep. Zoe Lofgren (D-Calif.), the top Democrat on the House immigration subcommittee, said the White House seems sensitive to the fact that Republicans and Democrats need to work out the issue in Congress -- no one is expecting a fiscal cliff-style arrangement jammed by leadership -- while keeping the president heavily involved.

#### **Reform’s key to heg**

Nye 12 Joseph S. Nye, a former US assistant secretary of defense and chairman of the US National Intelligence Council, is University Professor at Harvard University. “Immigration and American Power,” December 10, Project Syndicate, http://www.project-syndicate.org/commentary/obama-needs-immigration-reform-to-maintain-america-s-strength-by-joseph-s--nye

CAMBRIDGE – The United States is a nation of immigrants. Except for a small number of Native Americans, everyone is originally from somewhere else, and even recent immigrants can rise to top economic and political roles. President Franklin Roosevelt once famously addressed the Daughters of the American Revolution – a group that prided itself on the early arrival of its ancestors – as “fellow immigrants.”¶ In recent years, however, US politics has had a strong anti-immigration slant, and the issue played an important role in the Republican Party’s presidential nomination battle in 2012. But Barack Obama’s re-election demonstrated the electoral power of Latino voters, who rejected Republican presidential candidate Mitt Romney by a 3-1 majority, as did Asian-Americans.¶ As a result, several prominent Republican politicians are now urging their party to reconsider its anti-immigration policies, and plans for immigration reform will be on the agenda at the beginning of Obama’s second term. **Successful reform will be an important step in preventing the** decline of American power**.**¶ Fears about the impact of immigration on national values and on a coherent sense of American identity are not new. The nineteenth-century “Know Nothing” movement was built on opposition to immigrants, particularly the Irish. Chinese were singled out for exclusion from 1882 onward, and, with the more restrictive Immigration Act of 1924, immigration in general slowed for the next four decades.¶ During the twentieth century, the US recorded its highest percentage of foreign-born residents, 14.7%, in 1910. A century later, according to the 2010 census, 13% of the American population is foreign born. But, despite being a nation of immigrants, more Americans are skeptical about immigration than are sympathetic to it. Various opinion polls show either a plurality or a majority favoring less immigration. The recession exacerbated such views: in 2009, one-half of the US public favored allowing fewer immigrants, up from 39% in 2008.¶ Both the number of immigrants and their origin have caused concerns about immigration’s effects on American culture. Demographers portray a country in 2050 in which non-Hispanic whites will be only a slim majority. Hispanics will comprise 25% of the population, with African- and Asian-Americans making up 14% and 8%, respectively.¶ But mass communications and market forces produce powerful incentives to master the English language and accept a degree of assimilation. Modern media help new immigrants to learn more about their new country beforehand than immigrants did a century ago. Indeed, most of the evidence suggests that the latest immigrants are assimilating at least as quickly as their predecessors.¶ While too rapid a rate of immigration can cause social problems, over the long term, immigration strengthens US power. It is estimated that at least 83 countries and territories currently have fertility rates that are below the level needed to keep their population constant. Whereas most developed countries will experience a shortage of people as the century progresses, America is one of the few that may avoid demographic decline and maintain its share of world population.¶ For example, to maintain its current population size, Japan would have to accept 350,000 newcomers annually for the next 50 years, which is difficult for a culture that has historically been hostile to immigration. In contrast, the Census Bureau projects that the US population will grow by 49% over the next four decades.¶ Today, the US is the world’s third most populous country; 50 years from now it is still likely to be third (after only China and India). This is highly relevant to economic power: whereas nearly all other developed countries will face a growing burden of providing for the older generation**, immigration could help to attenuate the policy problem for the US.**¶ In addition, though studies suggest that the short-term economic benefits of immigration are relatively small, and that unskilled workers may suffer from competition**, skilled immigrants can be important to** particular sectors – and to long-term growth. There is a strong correlation between the number of visas for skilled applicants and patents filed in the US. At the beginning of this century, Chinese- and Indian-born engineers were running one-quarter of Silicon Valley’s technology businesses, which accounted for $17.8 billion in sales; and, in 2005, immigrants had helped to start one-quarter of all US technology start-ups during the previous decade. Immigrants or children of immigrants founded roughly 40% of the 2010 Fortune 500 companies.¶ Equally important are immigration’s benefits for America’s soft power. The fact that people want to come to the US enhances its appeal, and immigrants’ upward mobility is attractive to people in other countries. The US is a magnet, and many people can envisage themselves as Americans, in part because so many successful Americans look like them. Moreover, connections between immigrants and their families and friends back home help to convey accurate and positive information about the US.¶ Likewise, because the presence of many cultures creates avenues of connection with other countries, it helps to broaden Americans’ attitudes and views of the world in an era of globalization. Rather than diluting hard and soft power, immigration enhances both.¶ Singapore’s former leader, Lee Kwan Yew, an astute observer of both the US and China, argues that China will not surpass the US as the leading power of the twenty-first century, precisely **because the US attracts the best and brightest** from the rest of the world and melds them into a diverse culture of creativity. China has a larger population to recruit from domestically, but, in Lee’s view, its Sino-centric culture will make it less creative than the US.¶ That is a view that Americans should take to heart. If Obama succeeds in enacting **immigration reform** in his second term, he **will** have gone a long way toward fulfilling his promise to maintain the strength of the US.

#### Nuclear war

Khalilzad 11 Zalmay, the United States ambassador to Afghanistan, Iraq, and the United Nations during the presidency of George W. Bush and the director of policy planning at the Defense Department from 1990 to 1992, February 8, “The Economy and National Security; If we don’t get our economic house in order, we risk a new era of multi-polarity,” online: <http://www.nationalreview.com/articles/259024/economy-and-national-security-zalmay-khalilzad>

We face this domestic challenge while other major powers are experiencing rapid economic growth. Even though countries such as China, India, and Brazil have profound political, social, demographic, and economic problems, their economies are growing faster than ours, and this could alter the global distribution of power. These trends could in the long term produce a multi-polar world. If U.S. policymakers fail to act and other powers continue to grow, it is not a question of whether but when a new international order will emerge. The closing of the gap between the United States and its rivals could intensify geopolitical competition among major powers, increase incentives for local powers to play major powers against one another, and undercut our will to preclude or respond to international crises because of the higher risk of **escalation.**¶ The stakes are high. In modern history, the longest period of peace among the great powers has been the era of U.S. leadership. By contrast, multi-polar systems have been unstable, with their competitive dynamics resulting in frequent crises and major wars among the great powers. Failures of multi-polar international systems produced both world wars.¶ American retrenchment could have devastating consequences. Without an American security blanket, regional powers could rearm in an attempt to balance against emerging threats. Under this scenario, there would be a heightened possibility of arms races, miscalculation, or other crises spiraling into all-out conflict. Alternatively, in seeking to accommodate the stronger powers, weaker powers may shift their geopolitical posture away from the United States. Either way, hostile states would be emboldened to make aggressive moves in their regions.¶ As rival powers rise, Asia in particular is likely to emerge as a zone of **great-power competition**. Beijing’s economic rise has enabled a dramatic military buildup focused on acquisitions of naval, cruise, and ballistic missiles, long-range stealth aircraft, and anti-satellite capabilities. China’s strategic modernization is aimed, ultimately, at denying the United States access to the seas around China. Even as cooperative economic ties in the region have grown, China’s expansive territorial claims — and provocative statements and actions following crises in Korea and incidents at sea — have roiled its relations with South Korea, Japan, India, and Southeast Asian states. Still, the United States is the most significant barrier facing Chinese hegemony and aggression.

# T

## 1NC

#### Financial incentives require the disbursement of public funds directly linked to encouraging energy production – excludes regulations, disincentives, and mandates

Webb, 93 – lecturer in the Faculty of Law at the University of Ottawa (Kernaghan, “Thumbs, Fingers, and Pushing on String: Legal Accountability in the Use of Federal Financial Incentives”, 31 Alta. L. Rev. 501 (1993) Hein Online) – **italics in the original**

In this paper, "financial incentives" are taken to mean disbursements 18 of public funds or contingent commitments to individuals and organizations, intended to encourage, support or induce certain behaviours in accordance with express public policy objectives. They take the form of grants, contributions, repayable contributions, loans, loan guarantees and insurance, subsidies, procurement contracts and tax expenditures.19 Needless to say, the ability of government to achieve desired behaviour may vary with the type of incentive in use: up-front disbursements of funds (such as with contributions and procurement contracts) may put government in a better position to dictate the terms upon which assistance is provided than contingent disbursements such as loan guarantees and insurance. In some cases, the incentive aspects of the funding come from the conditions attached to use of the monies.20 In others, the mere existence of a program providing financial assistance for a particular activity (eg. low interest loans for a nuclear power plant, or a pulp mill) may be taken as government approval of that activity, and in that sense, an incentive to encourage that type of activity has been created.21 Given the wide variety of incentive types, it will not be possible in a paper of this length to provide anything more than a cursory discussion of some of the main incentives used.22 And, needless to say, the comments made herein concerning accountability apply to differing degrees depending upon the type of incentive under consideration.¶ By limiting the definition of financial incentives to initiatives where *public funds are either* disbursed or contingently committed, a **large number** of regulatory programs with incentive *effects* which exist, but in which no money is forthcoming,23 are excluded from direct examination in this paper. Such programs might be referred to as *indirect* incentives. Through elimination of indirect incentives from the scope of discussion, thedefinition of the incentive instrument becomes both more manageable and more particular. Nevertheless, it is possible that much of the approach taken here may be usefully applied to these types of indirect incentives as well.24 Also excluded from discussion here are social assistance programs such as welfare and *ad hoc* industry bailout initiatives because such programs are not designed primarily to *encourage* behaviours in furtherance of specific public policy objectives. In effect, these programs are assistance, but they are not incentives.

#### Feed-in tariffs are regulatory incentives, not financial

**Brady, 4 -** A Thesis In The Department of Political Science Presented in Partial Fulfillment of the Requirements for the Degree of Master of Arts (Public Policy and Public Administration) at Concordia University Montreal, Quebec, Canada (Jonathan, “Wind Boom, Wind Bust: An Examination of the Conditions and Policies that Led to Gennany's Wind Industry and Canada's Lack Thereof,” December, <http://spectrum.library.concordia.ca/8274/1/MR20699.pdf>)

Government employed regulatory and financial incentives have played a salient role in this rapid growth of wind energy production. The most successful regulatory incentive in stimulating wind energy production and decreasing technology costs has been a form of regulatory pricing legislation known as feed-in tariffs or feed-in laws. The chief idea behind them is that national governments establish the price of the wind energy and allow the market to determine capacity and generation. More specifically, national governments oblige electric utility companies to enable wind-generating producers (i.e. owners and operators of wind turbines) to connect to the electric grid, and purchase any electricity generated by wind turbines at a fixed minimum share of the retail price of electricity - at least 85 percent? These prices and payments are guaranteed over a specific period of time - usually no less than five years. The costs of higher payments for wind energy are either covered by an additional per kilowatt-hour (kWh) charge on all consumers according to their level of use, or by a charge on those customers of utilities required to purchase wind generated electricity (EWEA 2004b; EWEA 2004c; Hvelplund 2002; Sawin 2004). Financial incentives such as tax credits and/or production subsidies have also been useful in sparking investment interest in the wind industry. These regulatory and financial incentives, in tandem or individually, represent national government's means of stimulating private sector investment into the wind industry. It has been the private sector's enthusiastic response to these incentives that have driven this remarkable wind boom (i.e. expansive growth in wind energy production and wind industry development) during the last decade.

#### Vote Neg –

#### Predictable Limits –impossible to debate different possible regulations of energy production – the word incentives in the resolution is modified by financial to make it manageable

#### Ground – ensures the aff has links to market disads and counterplans which are the only core negative ground

## 2NC

#### FITs are not a production incentive

Doris, 12 – National Renewable Energy Laboratory (Elizabeth, "Policy Building Blocks: Helping Policymakers Determine Policy Staging for the Development of Distributed PV Markets," Paper to be presented at the 2012 World Renewable Energy Forum, 5/13-5/17, http://www.nrel.gov/docs/fy12osti/54801.pdf)

3.3 Market Expansion

This stage of policy development targets the development of projects and includes both incentives that attempt to distribute the high first costs of distributed technologies and policies that facilitate project installation. The purpose of this category is to increase the installation of individual projects through monetizing the non-economic benefits of distributed generation for the developer. Because the value of those benefits vary in different contexts, these policies can be politically challenging to put in place and technically challenging to design and implement. There is a large body of literature (encompassing the energy field as well as other fields) that discusses the design and implementation of effective market incentives. Specific policy types include:

Incentives. In the context of this framework, incentives are defined as direct monetary support for specific project development. Incentives, especially in the current economic environment, can be politically challenging to implement and require detailed design to ensure that they are effectively reaching the intended market at levels that spur development without creating over-subsidization. Because of the complications and expense of these types of policies, they are most used and most cost-effective in environments where the market is prepared for project development. There are three primary types of incentives:

Investment incentives directly alter the first cost of technologies. These incentives can take the form of grants, rebates, or tax incentives, depending on the market needs. Grants are typically applied to larger scale projects and are paid in advance of development, and so target development that would not take place without advance investment. Rebates are most commonly based on equipment purchases and can be applied at the time of purchase or through a post-purchase mechanism. Tax incentives can be deductions or credits, can be applied to entire installations, and are applied after purchase, annually. Tax incentives target development that does not need direct capital investment, but instead prioritizes reduction in pay-back period.

Production incentives provide payment for electricity produced from the distributed electricity.

These are different from net metering because the aim is not to provide the economic value of electricity sold into the grid, but instead, to monetize the indirect benefits of distributed generation and apply that on a production basis to projects. These incentives do not directly remove the challenge of higher first costs, and so are most effective in situations in which those high first costs can be spread over the course of the project lifetime (e.g., where direct priori investment is not a priority). In the last decade, incentives for distributed generation have tended toward the production type, because it assures the public that the investment is resulting in clean energy development (whereas investment incentives have the potential to be invested in projects that do not materialize).

Feed-in-Tariffs. This incentive type reduces investment risk by providing fixed payments for projects based on the levelized cost of renewable energy generation. This (among other design characteristics) distinguishes feed-in-tariffs from production-based incentives, which are based on monetizing the value of the electricity to the grid or the value to the electricity purchaser.

Removing Siting Restrictions or Ensuring Broad Market Access. Siting restrictions can be stipulated by local ordinances or home owners associations and designate where solar panels can be placed within the jurisdiction. Twenty-four states currently have laws in place that prevent the restriction of solar facilities on residences (12). Like the current state role in encouraging transparency in permitting policies, these typically legislative policies cost nothing to put in place, but implementation and enforcement can be challenging and costly, depending on the interests of the localities. This is an expansion policy (as opposed to a preparation policy) because the effect of siting restrictions is currently unclear, and to date, market development has not been limited by these types of regulations.

Streamlined Permitting. Permitting for solar facilities has traditionally been the jurisdiction of localities, but there are some states that also issue permits. In the past two years, both Colorado (13) and Vermont (14) have issued laws regulating state permits for renewable energy systems. Such permitting falls into the market expansion category as a potential follow-on to the development of transparent permitting. However, because of its limited use to date there is little information on effectiveness, potential intended or unintended impacts, or broad applicability, so it is not currently considered a primary policy for developing markets.

#### Feed-in tariffs are legal obligations – i.e. mandates

WFC 7 World Future Council, 2007, “Feed-In Tariffs – A guide to one of the world’s best environmental policies Boosting Energy for our Future," http://www.worldfuturecouncil.org/fileadmin/user\_upload/Maja/Feed-in\_Tariffs\_WFC.pdf

FITs are simple. They put a legal obligation on utility companies to buy electricity from renewable energy producers at a premium rate, usually over a guaranteed period, making the installation of renewable energy systems a worthwhile and secure investment for the producer. The extra cost is shared among all energy users, thereby reducing it to a barely noticeable level.

# States

## 1NC

#### TEXT: The United States federal government should establish a cap-and-trade system for carbon emissions in the United States. The federal government should reduce the corporate income tax and business capital-gains taxes

#### The United States federal government should phase out all energy subsidies.

#### Targeting specific industries and technology fails---cap and trade is key to market-based solutions that solve the case better

Morris et al 12 Adele C. Morris, Fellow and Deputy Director of the. Climate and Energy Economics project at Brookings, Pietro S. Nivola, Charles Schultze, Brookings Scholars, "CLEAN ENERGY:REVISITING THE CHALLENGES OF INDUSTRIAL POLICY" June 4 www.brookings.edu/~/media/research/files/papers/2012/6/04%20clean%20energy%20morris%20nivola%20schultze/04\_clean\_energy\_morris\_nivola\_schultze.pdf

Public investments of these magnitudes, targeted at specific industries, arguably constitute an industrial policy, albeit a sectoral one, unlike the earlier proposals of the 1980's —that is, a government strategy to steer resources toward select producers or technologies. The rationale and efficacy of these clean-energy expenditures call for scrutiny.

Proponents offer numerous reasons for scaling up particular energy technologies at the taxpayer's expense. One set of reasons involves the need to remediate market failures that have not been corrected by other policies. For example, clean-energy technologies are said to emit fewer greenhouse gases than do traditional sources per unit of energy produced. The United States does not have an economy-wide policy to control greenhouse gases, most notably, one that puts a price on C02 that reflects the environmental harm associated with use of fossil fuels.

A far more effective policy than subsidies for clean energy research, development and demonstration would be a tax or a cap-and-trade regime that would put an appropriate price on carbon and other greenhouse gases. Properly implemented, this alternative approach would help level the playing field for greener energy sources, for it would require emitters to pay prices that reflect the costs their emissions impose on society. The enhanced efficiency that would result has been widely recognized by economists.6 True costs would flow to purchasers of goods and services that require energy, suitably inducing conservation. Emitters would have incentives to invest in equipment and new production techniques, use alternative fuels, and seek other methods to reduce emissions. And America's innovators would channel their efforts into inventing, scaling up, and marketing competitive forms of clean energy. However, because existing market signals do not suffice to encourage climate-friendly technologies, carefully targeted federal funding seems warranted. But as we explain later, it is ironically only after incorporating the social costs of energy into market prices that many clean energy subsidies will succeed in deploying new technologies.

#### Subsidy and incentive elimination levels the playing field---allows a free market approach to energy policy

WSJ 12 "The Energy Subsidy Tally" Aug 18 lexis

So for every tax dollar that goes to coal, oil and natural gas, wind gets $88 and solar $1,212. After all the hype and dollars, in 2010 wind and solar combined for 2.3% of electric generation -- 2.3% for wind and 0% and a rounding error for solar. Renewables contributed 10.3% overall, though 6.2% is hydro. Some "investment."

Zooming out for all energy, the Congressional Research Service did its own analysis of tax incentives last year. It found that in 2009 fossil fuels accounted for 78% of U.S. energy production but received only 12.6% of tax incentives. Renewables accounted for 11% of energy production but received 77% of the tax subsidies -- and that understates the figure because it leaves out direct spending.

By the way, these subsidy comparisons don't consider that the coal, oil, and natural gas industries paid more than $10 billion of taxes in 2009. Wind and solar are net drains on the Treasury.

All of this suggests a radical idea. Why not eliminate all federal energy subsidies? This would get the government out of the business of picking winners and losers -- mostly losers.

Mr. Obama's plan to eliminate oil and gas subsidies would lower the budget deficit by less than $3 billion a year, but creating a true level playing field in energy, and allowing markets to determine which energy sources are used, would save $37 billion. That's an energy plan that makes sense.