### Financial Incentives are Direct 1NC

A. Financial incentives are direct, indirect are fiscal incentives

Kurtz ‘02

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Jurgen 23 U. Pa. J. Int'l Econ. L. 713

Incentives to attract investors into the host state are often linked to performance requirements by host states. In other words, they act as an economic carrot to sweeten the imposition of the stick. n62 The range of incentives offered by host states is extensive. However, there are broadly two main categories - fiscal incentives (whose objective is often to reduce the tax burden for an investor by, for example, reducing the standard corporate income tax rate) and financial incentives (which normally involve the provision of funds directly to the investor in the form of direct subsidies, loan guarantees, or export credits). n63 Developed states normally favor the use of financial incentives over fiscal ones, in part because fiscal incentives generally require change to domestic legislation and [\*730] hence parliamentary approval. In contrast, developing states tend to prefer the use of fiscal incentives, as they generally lack the resources needed to provide direct financial incentives. n64

“FOR” is a limiting term

Clegg, 95 - J.D., 1981 Yale Law School; the author is vice president and general counsel of the National Legal

Center for the Public Interest. (Roger, “Reclaiming The Text of The Takings Clause,” 46 S.C. L. Rev. 531,

Summer, lexis)

Even if it made no sense to limit the clause to takings "for public use"--and, as discussed below, it might make very good sense--that is the way the clause reads. It is not at all ambiguous. The prepositional phrase simply cannot be read as broadening rather than narrowing the clause's scope. Indeed, a prepositional phrase beginning with "for" appears twice more in the Fifth Amendment, and in both cases there is no doubt that the phrase is narrowing the scope of the Amendment. n20

#### B. The Violation: the plan increases indirect incentives for energy production.

#### C. Ground. Our interp ensures fair ground for the aff and predictable links for the neg. Direct incentives for energy production means topic literature provided DA and K links

#### Limits. Their interp is practically limitless

Dyson et al, 3 - International Union for Conservation of Nature and Natural Resources (Megan, Flow: The Essentials of Environmental Flows, p. 67-68)

Understanding of the term ‘incentives’ varies and economists have produced numerous typologies. A brief characterization of incentives is therefore warranted. First, the term is understood by economists as incorporating both positive and negative aspects, for example a tax that leads a consumer to give up an activity that is an incentive, not a disincentive or negative incentive. Second, although incentives are also construed purely in economic terms, incentives refer to more than just financial rewards and penalties. They are the “positive and negative changes in outcomes that individuals perceive as likely to result from particular actions taken within a set of rules in a particular physical and social context.”80 Third, it is possible to distinguish between direct and indirect incentives, with direct incentives referring to financial or other inducements and indirect incentives referring to both variable and enabling incentives.81 Finally, incentives of any kind may be called ‘perverse’ where they work against their purported aims or have significant adverse side effects. ¶ Direct incentives lead people, groups and organisations to take particular action or inaction. In the case of environmental flows these are the same as the net gains and losses that different stakeholders experience. The key challenge is to ensure that the incentives are consistent with the achievement of environmental flows. This implies the need to compensate those that incur additional costs by providing them with the appropriate payment or other compensation. Thus, farmers asked to give up irrigation water to which they have an established property or use right are likely to require a payment for ceding this right. The question, of course, is how to obtain the financing necessary to cover the costs of developing such transactions and the transaction itself. ¶ Variable incentives are policy instruments that affect the relative costs and benefits of different economic activities. As such, they can be manipulated to affect the behaviour of the producer or consumer. For example, a government subsidy on farm inputs will increase the relative profitability of agricultural products, hence probably increasing the demand for irrigation water. Variable incentives therefore have the ability to greatly increase or reduce the demand for out-of-stream, as well as in-stream, uses of water. The number of these incentives within the realm of economic and fiscal policy is practically limitless.

#### D. T is a voter for fairness and education. Extra T dejustifies the resolution and demands a neg ballot.

### SMR 1NC

**Obama will win- Polls, Money and momentum**

**Halperin 9-10**

Mark is a Columnist at Time Magazine and a Political Analyst for NBC News, “The Troubles,” <http://thepage.time.com/2012/09/10/the-troubles/>

**The danger for the Romney** campaign right now **is the** congealing **conventional wisdom** that **the Republican** emerged from Tampa and Charlotte meaningfully behind and **is now facing some tough Electoral College reality**.¶ **This CW is driven by the post-convention polls showing a bump for the President**, prominent Politico and New York Times stories citing **key Republicans acknowledging** that **Boston is behind in Ohio** and other must-win states, Barack **Obama’s outraising** Mitt **Romney in August** **and weak Romney and** Paul **Ryan answers in interviews on** such topics as **health care, the U.S. military and the budget**. The Fox News Sunday round table yesterday sounded like a postmortem explaining a Romney loss.¶ (PHOTOS: Republican National Convention 2012)¶ Romney still has the debates, millions and millions of dollars in TV ads and weeks of campaigning to try to turn things around. But he faces the immediate threat of both quiet and loud we-told-you-so’s from Republicans who last year had the very worries they fear are being manifested now. Romney is an awkward, unlikable candidate. The author of Romneycare is ill positioned to attack Obamacare. And Romney’s shifting positions make him an easy mark for an aggressive White House.¶ (PHOTOS: The Rich History of Mitt Romney)¶ Until Romney breaks this cycle, he is in danger of living out the Haley Barbour dictum: **in politics, bad gets worse. Super PACs might start shifting their money from the presidential race to save the House majority** and look to pick up Senate seats. **Romney’s own fundraising will take a hit. Stories about Romney pulling up stakes in Michigan and other ostensible battlegrounds will add to the death stench**. And there will be an avalanche of suggestions and second-guessing from pundits and Republican operatives and politicians about Romney’s tactics, strategy and staff.¶ A major Obama gaffe, a few key state or national polls showing a Romney rise or some sort of economic crisis could turn the race around. **But on the current trajectory, Romney faces more troubled days ahead.**

#### SMR’s incredibly unpopular- Batman

Deal-Blackwell 7/23

(Deborah, works with Los Alamos, founder of Hyperion Power Generation, ““Dark Knight Rises” Batman movie does infant SMR industry no favors” <http://ixpower.com/tag/small-modular-reactors/>, SEH)

But, I couldn’t believe it …Holy Plot Twist Batman! I cringed when we got to the part where they introduced the little nuclear reactor. ACK! The Nolan Brothers had written in Wayne Enterprises Applied Science Division developing an SMR (Small Modular nuclear power Reactor) that was used by the bad guys to threaten Gotham. In the movie, the bad guys gain access to the SMR and had a scientist magically presto changeo TURN IT INTO A FUSION NUCLEAR BOMB in what seemed like a turn of a screw, and in the space of a few minutes. As the movie progressed, and I became sore from my date nudging me with his elbow, darn it if the characters didn’t flip the sucker onto the back of the truck and drive around Gotham with it …!¶ GROAN! CRINGE! I know it’s just a movie and YOU know it’s just a movie, but golly, gosh darn, The Dark Knight Rises sure doesn’t help the rise of the fledging SMR industry! ¶ Fusion?! Ack! Fusion bomb?! Ack! Quickly retrofitting a power reactor to be a bomb?! Ack! Throwing it in a truck and driving it around the city?! ¶ Double Ack! The fairy tale spun further and further out of control. I wanted to bang my head on the seat in front of me. I don’t recall any other recent movies featuring a small nuclear power being turned into a bomb, and I sure wish this one had not.¶ Misconceptions about nuclear power abound today. Misconceptions and fear about SMRs, I’m afraid, will no doubt skyrocket after everyone gets around to seeing this movie. If you ask me, the release of this Batman flick hands the Union of Concerned Scientists a loaded Batpistol to scare the uninformed majority into opposing the development of SMRs. ¶ This movie could be a pain in the collective butts of those of us who believe SMRs have a place in the future of clean energy for our planet and may come back to haunt the nuclear industry – for both big and small power reactors. I’m pretty sure it will – just as sure as at the end of every Batman movie, the dark knight rises.¶

**Approval Rating is key, lines up perfectly with reelection
Silver ’11**

Nate directs five thirty eight and is a statistician, “Approval Ratings and Reelection Odds,” <http://fivethirtyeight.blogs.nytimes.com/2011/01/28/approval-ratings-and-re-election-odds/>

Earlier this month, we posted the simple version of a finding, based on the historical record, that is worth keeping in mind when you read articles about how Barack Obama’s presidency has (or has not been) been revitalized: It’s just too soon for his approval ratings to tell us very much about his re-election prospects for 2012. This is an overdue follow-up to that article — what you might think of as the slightly-more-complicated version. While **it’s true that approval ratings aren’t of much use now, it’s also the case that, by the time we get close to the election, they will have become a very reliable predictor of Mr. Obama’s chances of winning another term**. Based on Gallup polling, here is what I estimate that the incumbent president’s approval rating was on Election Day in almost every election since 1940. (There is no data for 1944 because Gallup went on wartime hiatus.) There are a few tricks I had to employ to derive these numbers; I’d ask you to take them on faith for a few moments, and then we’ll explain everything later on. **At first glance, the relationship seems nearly perfect: every incumbent with an approval rating of 49 percent or higher won re-election, while every candidate with a rating of 48 percent or lower lost.** In practice, things probably don’t work quite that crisply. For example, Harry Truman, whom we estimate had a 50 percent approval rating on Election Day 1948, won by 4.5 points, and 114 electoral votes, over Thomas E. Dewey, which suggests that he had some margin to spare. And candidate quality clearly makes a difference. Although Robert Dole is sometimes considered a weak Republican nominee, Bill Clinton beat him in 1996 by just 8.5 points, despite Mr. Clinton’s 55 percent approval rating. By contrast, in 1972, Richard Nixon, with an approval rating only a couple of points higher (57 percent), trounced a very weak Democratic nominee, George McGovern, by more than 23 points. Still, the approval rating at which an incumbent candidate goes from being an underdog to a favorite for re-election is somewhere in the high 40s. **The reason the threshold is probably slightly below 50 percent rather than right at 50 percent is that in any approval survey, some people (typically 5 to 10 percent) say they are undecided about the president’s performance**. For instance, at this writing, Barack Obama’s Gallup approval rating is 49 percent but his disapproval rating is just 42 percent, a net margin of +7. If those were the figures on Election Day, he would be a favorite to win unless nearly everybody who was undecided about his performance cast their ballots against him, something that is possible in theory but usually doesn’t occur in practice. Now, then, how did we come up with these numbers? As I said, it’s not quite so straightforward. Gallup has approval ratings data going back to 1937. The problem is that, until fairly recently, they had a habit of stopping their approval ratings polling several months before a presidential election. For instance, in 1956, their last poll of Dwight Eisenhower’s public approval was in early August; they did not survey him again until late November, after he had already defeated Adlai Stevenson. However, we can extrapolate what Mr. Eisenhower’s rating would have been on Election Day 1956 by drawing a smoothed regression line — known in the business as a Loess curve — using the data points before and after that date. The one hitch is that incumbent presidents, whether they win, lose, or don’t run at all, almost always receive a “bounce” in their approval rating after the election, as people either rally around a winner or feel sympathy for the lame duck. The average magnitude of this post-election bounce is 4 points. So, before I fitted the curves, I subtracted 4 points from approval rating polls conducted after Election Day. By applying this process of bounce-adjustment and curve-fitting, we are able to estimate an incumbent president’s Gallup approval rating on Election Day itself or on any day before it, as shown in this nifty-looking graphic: I haven’t labeled the curves by the candidate’s name in the chart, because that which create too much clutter. But I have distinguished those who eventually won re-election (blue lines) from those who lost (red). A couple of cases are worth attention. The red line that you see briefly extending above 80 percent is for George H.W. Bush. His approval ratings, which were already pretty good, shot up following the start of Operation Desert Storm in 1991, when American-led forces drove Iraqi troops back from their occupation of Kuwait. Politically, that made Mr. Bush look like an extremely formidable candidate for re-election: Saturday Night Live ran a sketch later that year entitled “Campaign ’92: The Race To Avoid Being The Guy Who Loses To Bush,” with Democratic candidates at a debate all trying to lose so they would not have to run against him. But Mr. Bush’s approval ratings fell precipitously throughout late 1991 and early 1992, and were below 40 percent by Election Day. If Mr. Bush is the precedent that challengers will cite when their campaign seems to be flailing, the opposite example is the original Comeback Kid, Harry Truman. He’s the blue line that you still see down around 40 percent approval with just five months to go before the election of 1948. It’s hard to know exactly where Mr. Truman’s approval numbers were on Election Day. When Gallup surveyed in late June, he had just 39 percent approval; in January, 1949, after he had beaten Thomas E. Dewey, he was up to 69 percent; and then he reverted back to 50 percent just a couple months later. Our Loess curve estimates that Mr. Truman’s approval rating was probably around 50 percent on Election Day, but this is just a guess. What’s clear is that Mr. Truman was at some point an extremely unpopular president, and he nevertheless — to the great surprise of the Chicago Daily Tribune — defeated Mr. Dewey. Another thing to take from the graphic is how the red and blue lines gradually untangle themselves as the relationship between approval ratings and re-election becomes stronger over time. We can see this a bit more clearly by taking the average approval rating for the 8 winning candidates and the 3 losing ones and tracking them over the two years leading up to the election: I would resist the idea that there is any one magical date when approval ratings go from meaningless to meaningful as predictors of re-election. In the chart, the first time the winners and the losers begin to separate themselves is about 19 months before the election — which would correspond roughly to March of the prior year — but the split would have come a bit earlier if not for Mr. Bush’s Gulf War bounce. There’s also increasing differentiation in the period roughly 10 to 5 months before the election, corresponding with primary season. Still, for the most part, the separation occurs gradually. I’ve also tried to play around with various sorts of logistic regression models that attempt to predict a president’s chances at re-election based solely on his Gallup approval rating and the number of days until the election. Don’t take this terribly seriously — it’s hard to do anything very rigorous based on so few data points (just 11 presidents in the sample), and I can imagine better model designs than the one that I’ve used. But it does yield some ballpark estimates of what this data implies. **For example, a year in advance of the election, the model figures that a president with a 60 percent approval rating is about 90 percent likely to win re-election, whereas a 40 percent rating translates into a win probability of a bit below 40 percent**. So by that point the differences have become fairly meaningful: What does this mean for Barack Obama? Right now, we’re still in the period where the most useful number for estimating his re-election chances is not his approval rating but rather the historical track record of incumbent presidents. As I wrote on Wednesday, since the Civil War, 73 percent of incumbent presidents who sought another term won, as have 70 percent since World War II. Plugging Mr. Obama’s current numbers into the regression model that I described above yields a 65 percent likelihood of re-election — but again, this is a really rough guess, based mostly on the high historical batting average for incumbents rather than anything to do with Mr. Obama himself. What we can say is important is the range in which Mr. Obama’s approval ratings have been varying in recent months: between about 45 and about 50 percent. **If Mr. Obama’s approval rating is at the top of that range, 50 percent, on Nov. 6, 2012 — about where it is now — the model figures that his chances of winning re-election will be greater than 80 percent. But if his approval rating is at the bottom of the range instead, at 45 percent, his chances for a second term will be only about one in three,** and he’ll have to hope that the Republican nominee is a weak one. Much will change between now and then, of course. But Mr. Obama would probably win an election held next Tuesday — and that would not have been true a couple of months ago.

#### China label kills relations and the economy

Roach 8-28

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True to his word as a candidate, a few hours after taking office as US president on January 20, 2013, Mitt Romney issued his first executive order, declaring China guilty of currency manipulation. In accordance with the Omnibus Trade and Competitiveness Act of 1988, President Romney’s act triggered immediate negotiations between US and Chinese officials. But the negotiations stalled and both parties blamed the other in press releases.¶ In early February, in his first State of the Union address, Mr Romney said: “Enough is enough. It is high time for China to play by our rules.” Congress roared its approval and within a week, overwhelming bipartisan majorities of both houses passed the Defend America Trade Act of 2013. Modelled on the currency manipulation “remedies” of countervailing tariffs first proposed in 2005, DATA was signed into law on President’s Day, February 18 2013. China was quickly deemed to be in violation of the new statute.¶ More¶ At that point negotiations took on a new urgency. But the new leaders in both countries were in no mood for compromise and the talks failed. In accordance with the provisions of DATA, Washington slapped immediate tariffs of 20 per cent on all Chinese products entering the US.¶ As plants shut down across China, Beijing declared this to be an act of economic war and filed a complaint with the World Trade Organization. Li Keqiang, newly installed as premier, announced after the National People’s Congress in March that China had no patience to endure a WTO dispute process that could take anywhere from two to five years to run its course.¶ China’s Ministry of Commerce then announced retaliatory tariffs of 20 per cent on all US exports to China. This hit growth-starved America right between the eyes. With $104bn of American-made goods sold in Chinese markets in 2011, China had become the US’s third-largest and its fastest-growing export market. To add insult to injury, China-dependent Walmart announced average price increases of 5 per cent. Other retailers followed suit. Talk of stagflation was in the air and hard-pressed American consumers hunkered down further.¶ US financial markets swooned. The stock market was hit by pressures on profit margins, growth and inflation. The bond market was also unnerved by the realisation that the Federal Reserve was seriously behind the curve. With good reason. After its meeting in June 2013, the Fed reaffirmed its ever-extending commitment to keep its benchmark policy rate near zero through 2015, and even dangled the possibility of yet another round of quantitative easing, QE4. Yields on 10-year Treasuries moved back above 4 per cent and stocks fell sharply further.¶ Feeling the heat from financial markets, Washington turned up the heat on China. Mr Romney called Congress back from its Independence Day holiday into a special session. By unanimous consent, Congress passed an amendment to DATA – upping the tariffs on China by another 10 percentage points.¶ At that point an indignant China turned to its own version of the big bazooka. The biggest foreign buyer of US debt was nowhere to be seen at the Treasury’s August 2013 auction. Long-term interest rates spiked and within weeks yields on 10-year Treasuries hit 7 per cent. The dollar plunged and the US stock market went into free fall.¶ Just like that, the so-called exorbitant privilege of the haven asset vanished. When asked at a press conference why China would willingly engage in actions that would undermine the value of more than $2tn in Treasuries and other dollar-based holdings, Zhou Xiaochuan, retiring governor of the People’s Bank of China, said: “This is not about risk-adjusted portfolio returns. We are defending our people against an act of economic war.”¶ By the autumn of 2013 there was little doubt of the severity of renewed recession in the US. Trade sanctions on China had backfired. Beleaguered American workers paid the highest price of all, as the unemployment rate shot back up above 10 per cent. A horrific policy blunder had confirmed that there was no bilateral fix for the multilateral trade imbalance of a savings-starved US economy.¶ In China, growth had slipped below the dreaded 6 per cent threshold and the new leadership was rolling out yet another investment stimulus for a still unbalanced and unstable Chinese economy. As the global economy slipped back into recession, the Great Crisis of 2008-09 suddenly looked like child’s play. Globalisation itself hung in the balance.¶ History warns us never to say never. We need only look at the legacy of US Senator Reed Smoot and Representative Willis Hawley, who sponsored the infamous Tariff Act of 1930 – America’s worst economic policy blunder. Bad dreams can – and have – become reality.

#### Economic decline causes nuclear war

Harris and Burrows, 09 –

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Of course, the report encompasses more than economics and indeed believes the future is likely to be the result of a number of intersecting and interlocking forces. With so many possible permutations of outcomes, each with ample Revisiting the Future opportunity for unintended consequences, there is a growing sense of insecurity. Even so, history may be more instructive than ever. While we continue to believe that the **Great Depression** is not likely to be repeated, the **lessons** to be drawn from that period **include the harmful effects on** **fledgling** **democracies** and multiethnic societies (think Central Europe in 1920s and 1930s) **and** on the sustainability of **multilateral institutions** (think League of Nations in the same period). **There is no reason to think that this would not be true in the twenty-first** as much as in the twentieth **century.** For that reason, the ways in which **the potential for greater conflict could grow** would seem to be even more apt **in a** constantly **volatile economic environment** as they would be if change would be steadier. In surveying those risks, the report stressed the likelihood that terrorism and nonproliferation will remain priorities even as resource issues move up on the international agenda. **Terrorism**’s appeal **will decline if** economic **growth continues** in the Middle East and youth unemployment is reduced. For those terrorist groups that remain active in 2025, however, the **diffusion of technologies** and scientific knowledge **will place** some of **the world’s most dangerous capabilities within their reach**. Terrorist groups in 2025 will likely be a combination of descendants of long established groups\_inheriting organizational structures, command and control processes, and training procedures necessary to conduct sophisticated attacks and newly emergent collections of the angry and disenfranchised that become self-radicalized, particularly in the absence of economic outlets that would become narrower in an economic downturn. The most dangerous casualty of any economically-induced drawdown of U.S. military presence would almost certainly be the Middle East. Although Iran’s acquisition of nuclear weapons is not inevitable, worries about a nuclear-armed Iran could lead states in the region to develop new security arrangements with external powers, acquire additional weapons, and consider pursuing their own nuclear ambitions. It is not clear that the type of stable deterrent relationship that existed between the great powers for most of the Cold War would emerge naturally in the Middle East with a nuclear Iran. Episodes of low intensity **conflict** and terrorism taking place under a nuclear umbrella **could lead to an unintended escalation** and broader conflict if clear red lines between those states involved are not well established. The close **proximity of** potential **nuclear rivals** combined with underdeveloped surveillance capabilities and mobile dual-capable Iranian missile systems also will produce inherent difficulties in achieving reliable indications and warning of an impending nuclear attack. The lack of strategic depth in neighboring states like Israel, short warning and missile flight times, and uncertainty of Iranian intentions **may place more focus on preemption** rather than defense, potentially **leading to escalating crises**. 36 Types of **conflict** that the world continues to experience, such as **over resources, could reemerge,** particularly if protectionism grows and there is a resort to neo-mercantilist practices. **Perceptions of renewed energy scarcity** will drive countries to take actions to assure their future access to energy supplies. In the worst case, this **could result in interstate conflicts** if government leaders deem assured access to energy resources, for example, to be essential for maintaining domestic stability and the survival of their regime. Even actions short of war, however, will have important geopolitical implications. Maritime security concerns are providing a rationale for naval buildups and modernization efforts, such as China’s and India’s development of blue water naval capabilities. If the fiscal stimulus focus for these countries indeed turns inward, one of the most obvious funding targets may be military. Buildup of regional naval capabilities could lead to increased tensions, rivalries, and counterbalancing moves, but it also will create opportunities for multinational cooperation in protecting critical sea lanes. With water also becoming scarcer in Asia and the Middle East, **cooperation** to manage changing water resources **is** likely to be increasingly **difficult** both within and between states **in a** more **dog-eat-dog world.**

### CP

#### Text: The United States federal government should pass the Cybersecurity Act of 2012. The United States federal government should require utilities to meet relevant U.S. and international regulations to protect grids from the effects of solar storms, mandate that transmission companies install supplemental transformer neutral ground resisters, and require utilities and regional transmission organizations to coordinate efforts to protect transformers.

#### Solves cyberterror

Outlook Series 3-18

A site offering breaking news coverage and analysis of major events, “Cyber Security Act of 2012,” <http://www.outlookseries.com/A0993/Security/3851_Cybersecurity_Act_2012.htm>

Working closely with Senate leadership, **the Cybersecurity Act of 2012 is** a joint effort by leaders and senior members of the Senate Committees on Commerce, Homeland Security and Governmental Affairs, and Intelligence to give the federal government and the private sector the tools **necessary to protect our most critical infrastructure from growing cyber threats**. The bill is a combination of legislation passed by the Commerce and Homeland Security Committees, and it incorporates extensive input from companies and trade associations representing a large swath of the private sector, including the information technology, financial services, telecommunications, chemical, and energy sectors. Other Members of Congress, national security, privacy and civil liberties experts, and government agencies have also provided important input. To ensure the federal government and the private sector take the necessary steps to secure our nation, **the Cybersecurity Act of 2012 would do the following: Determine the Greatest Cyber Vulnerabilities. The bill would require the Secretary of Homeland Security**, in consultation with **the private sector, the Intelligence Community, and others, to conduct risk assessments to determine which sectors are subject to the greatest and most immediate cyber risks.** **Protect Our Most Critical Infrastructure. The bill would authorize the Secretary of Homeland Security**, with the private sector, **to determine cybersecurity performance requirements based upon the risk assessments. The performance requirements would covercritical infrastructure systems and assets whose disruption could result in severe degradation of national security, catastrophic economic damage, or the interruption of life-sustaining servicessufficient to cause mass casualties** or mass evacuations. The bill would only cover the most critical systems and assets in a given sector, and only if they are not already being appropriately secured. Protect and Promote Innovation. Owners of “covered critical infrastructure” would have the flexibility to meet the cybersecurity performance requirements in the manner they deem appropriate. The private sector also would have the opportunity to develop and propose performance requirements for “covered critical infrastructure.” The bill would prohibit the government from regulating the design or development of information technology products. Improve Information Sharing While Protecting Privacy and Civil Liberties. As the sophistication of cyber threats and attacks has grown, it is increasingly clear that improved information sharing is a vital tool to combat cyber crime and espionage, and to alert owners of our nation’s most critical infrastructure of cyber threats to their systems and assets. Both the government and the private sector collect valuable cyber threat information. **This bill would provide a responsible framework for the sharing of cyber threat information between the federal government and the private sector**, and within the private sector, while ensuring appropriate measures and oversight to protect privacy and preserve civil liberties. Improve the Security of the Federal Government’s Networks. To strengthen the security and resilience of federal government systems, **the bill would amend** the Federal Information Security Management Act (**FISMA) and require the federal government to develop a comprehensive** acquisition **risk management strategy**. The amendments to FISMA would move agencies away from a culture of compliance to a culture of security by **giving the Department of Homeland Security authority to streamline agency reporting requirements and reduce paperwork through continuous monitoring and risk assessment**. The bill would emphasize “red team” exercises and operational testing to ensure federal agencies are aware of their networks’ vulnerabilities. B**y directing OMB to develop security requirements and best practices for federal IT contracts, the bill would also ensure agencies make informed decisions when purchasing IT products and services**. Clarify the Roles of Federal Agencies. The bill would clarify and improve federal efforts to address cyber threats. The bill would strengthen the critical partnership between the Department of Defense and the Department of Homeland Security**. It would consolidate existing cyber offices** at the Department of Homeland Security into a unified National Center for Cybersecurity and Communications to carry out the Department’s current responsibilities for protecting the networks of federal civilian agencies and critical infrastructure. Existing relationships between infrastructure owners and government agencies, as well as existing oversight frameworks, would remain intact, wherever possible, to avoid duplication. Strengthen the Cybersecurity Workforce. **The bill would reform the way cybersecurity personnel are recruited**, hired, and trained to ensure that the federal government has the necessary talent to lead and manage the protection of its own networks. Coordinate Cybersecurity Research and Development. **The bill would provide for a coordinated cybersecurity R&D program to advance the development of new technologies to secure our nation from ever-evolving cyber threats.**

#### Changing FERC requirements solves solar storms

Cooper & Sovocal ’11

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Both the private and public sectors may not fully understand the level of interconnectivity of critical infrastructures and could therefore fail to grasp the enormity of the threat posed by severe space weather.[33](http://www.sciencedirect.com/science/article/pii/S1040619011000972#fn0165)Utilities are not currently required to meet any mandatory U.S. or international codes or regulations for protecting power grids from the effects of solar storms.[34](http://www.sciencedirect.com/science/article/pii/S1040619011000972#fn0170) NERC standards require utilities to test their systems to prove they can withstand a number of contingencies, including the simultaneous loss of up to two critical infrastructure assets. But nothing in NERC reliability standards requires utilities to simulate a solar event of the scale that forecasters warn is not only possible, but inevitable.¶ While utilities have strong incentives to identify system vulnerabilities and protect critical assets, none are required to model the risks that a severe solar storm would pose to system reliability. Since 1983, when EPRI developed the first computer simulations of induced currents, computer models have become increasingly sophisticated. Today's models should be capable of simulating the reliability effects of induced currents with unprecedented accuracy.[35](http://www.sciencedirect.com/science/article/pii/S1040619011000972#fn0175) Utilities and regional transmission organizations should utilize better computer modeling to identify how induced currents from solar storms at a variety of intensities will affect critical system components at the local distribution and regional transmission levels. In addition, utilities should rank substations, transformers, and capacitor banks based on their vulnerabilities to induced currents under different scenarios.¶ NERC should mandate that transmission companies install supplemental transformer neutral ground resistors to reduce current flows through EHV transformers that models predict are the most vulnerable. These resistors are relatively inexpensive, require little additional engineering, and can reduce induced currents by 60–70 percent, regardless of storm intensity.[36](http://www.sciencedirect.com/science/article/pii/S1040619011000972#fn0180)¶ EPRI has studied how taking precautions to protect relatively few vulnerable transformers in any threatened service area does very little to reduce the risk to the overall system. [37](http://www.sciencedirect.com/science/article/pii/S1040619011000972#fn0185) Therefore, it is essential that utilities and regional transmission organizations coordinate efforts to protect transformers from the effects of severe solar storms. One idea is for bulk power suppliers to develop and expand backup equipment sharing programs, paying special attention to the sharing of EHV transformers between at-risk grid systems and those least likely to be affected during a severe storm.

###  Shell

#### THE WORKING CLASS MUST COALESCE IN MATERIAL ACTION AGAINST FINANCIAL EXPLOITATION ESPECIALLY IN THE CONTEXT OF ENERGY PLANNING. THE AFF’S NOTION OF AGENCY UNIQUELY UNDERMINES THE MATERIALIST ANTI-CAPITALIST REVOLUTIONARY KNOWLEDGE KEY TO SURVIVAL.

Callinicos 2k10

[Alex, Bonfire of Illusions: The Twin Crisis of the Liberal World, Polity, professor of European studies King’s College – London, DPhil – Oxford, p. 139-43]

There are other strong reasons to press for a break with the logic of competitive accumulation. The scientific evi-dence that the emission of greenhouse gases - most notably C02 - caused by human activity is generating profound and irreversible processes of climate change is now beyond dispute. It is also very widely agreed that preventing these processes reaching a disastrous scale requires the rapid adoption and implementation of drastic targets for cutting CO2 emissions. But while the targets, particularly since the eclipse of the Bush gang, have become more ambitious, the actual emissions have continued to rise. The most plausible explanation appeals to the logic of competition.

The problem is, yet again, one of collective action. Evi- dently it is in everyone's interest to avoid drastic climate change. But no individual capital or state is willing to shoulder the additional costs involved in moving to a low- carbon economy. In international negotiations, the leading states play a game of pass-the-parcel - the US demanding that India and China adopt tough targets, the latter asking why they should bear the burden of two centuries of industrialization mainly in the North. The EU, despite its pre- tensions to be a master of 'soft power' that has transcended bad old nationalism, is particularly ineffectual. Germany has vocally and largely successfully defended its car firms against what they regarded as excessively tough targets. And the economic crisis has provided many governments with a perfect excuse to go slow in reducing reliance on fossil fuels. The logic of competitive accumulation here threatens the future of the human species.20 The implication is that any sustainable alternative to •capitalism has to be based, not on the market, but on democratic planning. In a democratically planned economy the allocation of resources would be the outcome of a democratic political process that would set overall priori- ties for the economy. There are some models of how this could work. One is Albert's Parecon, or participatory economics. This involves an economy of workers' and consumers' councils in which individuals and enterprises submit proposals for their share of society's resources and a process of gradual adjustments (Albert calls them 'iterations') takes place while technical experts come up with a plan that would give everyone as much as possible of what they want. The main weakness of this model is that it mimics a bit too closely the workings of a market economy, in which claims on resources are driven by individual demands. Albert is an anarchist, and his commitment to decentralization here goes too far. The allocation of society's resources isn't a neutral technical issue. It's a political question that requires some sort of collective and democratic decision-making process to choose between what would often be competing views of the priorities of the society in question. From this perspective, Pat Devine offers a superior model of what he calls negotiated coordination. Here the allocation of resources is largely the outcome of discussion between producers, consumers and other affected groups, but within the framework of overall decisions about economic priorities made democratically at the national and international level.21 Plainly there is much more to be said - and, above all, to be done - about democratic planning. All the same, the importance of the kind of work being done by Albert Devine and others is that they begin to break down the prejudice against planning and to sketch out how an economy that rejected the market could manage to be both democratic and efficient. But any break with capitalism couldn't take the form of an instantaneous leap into a fully planned economy. Marx long ago argued in the 'Critique of the Gotha Programme' that a new workers' state would inherit a society deeply marked by capitalism. Initially, it would have to make compromises with the old order, and gradually move towards a society governed by the communist principle 'From each according to his ability, to each according to his needs!'22 Similarly today a government breaking with capitalism would need to make a decisive shift towards an economy in which priorities were decided democratically rather than left to the anarchy of competition. This would involve critically taking control of the financial markets, nationalizing under workers' control key sectors of the economy, and extending social provision on the basis of a progressive tax system that redistributed wealth and income from rich to poor. These measures, radical though they are, would still leave in place many aspects of a market economy. Large sectors would remain in private hands. Continuous pressure and the introduction of new mea- sures would be necessary to move the economy as a whole towards the principles of democratic planning. One key step would be to weaken the power of the capitalist labour market, which today rules our lives. In my view, the best way to do this would be to intro- duce universal direct income. In other words, every resi- dent of the country would receive, as of right, an income that met their basic needs at a relatively low but neverthe- less decent level. This would serve two goals. First, it would ensure a basic level of welfare for everyone much more efficiently than existing systems of social provision. (People with greater needs because they had children or were disabled or whatever would receive a higher basic income.) Secondly, having a guaranteed basic income would greatly reduce the pressure on individuals to accept whatever job was on offer on the labour market. One of the main presuppositions of capitalism - that workers have no acceptable alternative to wage labour - would be removed. The balance of power between labour and capital would shift towards the workers, irrespective of the nature of their employer.23 More broadly, the question of power is crucial. One obvious challenge to the kind of vision of change I have just sketched out is how to ensure that the direction of change would be towards a democratically planned economy rather than back to market capitalism or maybe to the kind of state capitalism that ended up dominating the Soviet Union. The only guarantee that counts is that levers of political power are in the hands of the workers and the poor themselves. As long as the state takes the form that it does today, of a bureaucratically organized, hierarchical set of apparatuses whose managers' interests are bound up with those of capital, any improvement in society can only be temporary and fragile. This is why the strategy of ignoring the state advocated by Holloway is so badly mistaken. If we are to move towards a democratically planned economy, then the existing state has to be confronted and broken. This task can only be achieved through the development of a different kind of power, one based on the self- organization of workers and other poor people that devel- ops out of their struggles against capital. The great revolutionary movements of the twentieth century offered some glimpses of this power - from the workers' and sol- diers' councils of the Russian Revolution of October 1917 to the workers' shoras during the Iranian Revolution of 1978-9. The self-organization displayed by the Bolivian popular movement during the insurrections of October 2003 and May-June 2005 showed that the contemporary movements against neoliberalism can generate this kind of power as well.24 A democratically planned economy would be the core of a self-managing society, one in which directly elected workplace and neighbourhood councils took responsibil- ity for their own affairs and linked together to make deci- sions for society at large. The key insight that Marx had during the Paris Commune of 1871 was that these forms of organization would develop before the new society was created, in the process of fighting the old society. The same methods of self-organization that would be the basis of a self-managing society are needed by the exploited and oppressed to resist and, ultimately, to overthrow capital itself. The overthrow of capital is itself a process. The dilemma that Albert imagines confronting a workers' cooperative in a market economy would face any society that was beginning to introduce the principles of democratic plan- ning in a world still ruled by capitalism. It was responsible for the corruption and eventual destruction of the Russian Revolution of October 1917. Any breakthrough in one part of the world could only survive by spreading and progressively overturning the logic of capital on a global scale. The globalization of capital has produced a global- ization of resistance. Struggles in different parts of the world contaminate each other. Chiapas and Seattle had global reverberations. The two European countries with the most advanced and combative social movements, France and Greece, have exerted a degree of mutual influ- ence on one another. The movements in Latin America have become a beacon to all those fighting neoliberalism. "We are still a very long way from overturning capitalism even in one country. Indeed, the more one seeks to elabo- rate on the shape of an alternative to capitalism the more one is overawed by the immensity of the task. The biggest immediate obstacle that confronts anyone seeking to address it is the chronic political weakness of the radical anticapitalist left on a global scale. Nevertheless, the present crisis has torn a huge hole in neoliberalism both as an ideology and as a mode of organizing capital- ism. The market no longer seems like a second nature unamenable to change or control. Those who are prepared to seize this moment boldly can help to ensure that the boundaries of the possible really are widened, allowing the billions of victims of capitalism finally to escape.

#### Text: VOTE NEGATIVE TO REJECT THE 1AC IN FAVOR OF MATERIALIST REVOLUTIONARY KNOWLEDGE PRODUCTION AGAINST CAPITALISM.

#### AND, ECOLOGICAL CATASTROPHE NECESSITATES MATERIALIST REVOLUTIONARY DIALECTICS AGAINST CAPITALISM’S EXPLOITATION TO ENSURE SURVIVAL.

Foster 2k11

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In the twenty-first century it is customary to view the rise of planetary ecological problems as a surprising development scarcely conceivable prior to the last few decades. It is here, however, that we have the most to learn from the analysis of nineteenth-century thinkers who played a role in the development of ecology, including both early ecological scientists and classical historical materialists. Science has long warned of the negative, destructive side of the human transformation of the earth—a warning which the system, driven by its own imperatives, has continually sought to downplay. Indeed, what distinguishes our time from earlier centuries is not so much the conservation of catastrophe, which has long been recognized, but rather the accelerated pace at which such destruction is now manifesting itself, i.e., what I am calling the accumulation of catastrophe. The desertification arising in pre-capitalist times, partly through human action, manifested itself over centuries, even millennia. Today changes in the land, the atmosphere, the oceans, indeed the entire life-support system of the earth, are the product of mere decades. If in the past, Darwin was struck that in a mere three centuries after European colonization, the ecology of the island of St. Helena had been destroyed to the point that it was reduced to “desert”—today, in only two generations, we have altered the biogeochemical processes of the entire planet.28The absence of a historical perspective on the conservation, even accumulation, of catastrophe is a major barrier to needed change in our time. Many environmentalists, including some who perceive themselves as being on the left, persist in believing that we can address our immense and growing ecological problems without altering our fundamental social-production relationships. All that is necessary in this view is the combined magic of green technology and green markets. Short-term fixes are presumed to be adequate solutions, while society remains on the same essential course as before. Indeed, the dominant perspective on ecology can be characterized, I believe, as consisting of three successive stages of denial: (1) the denial altogether of the planetary ecological crisis (or its human cause); (2) the denial that the ecological crisis is fundamentally due to the system of production in which we live, namely capitalism; and (3) the denial that capitalism is constitutionally incapable of overcoming this global ecological threat—with capital now being presented instead as the savior of the environment.The first stage of ecological denial is easy to understand. This is the form of denial represented by Exxon-Mobil. Such outright denial of the destructive consequences of their actions is the automatic response of corporations generally when faced with the prospect of environmental regulations, which would negatively affect their bottom lines. It is also the form of absolute denial promoted by climate-change denialists themselves, who categorically reject the reality of human agency in global climate change. The second stage of denial, a retreat from the first, is to admit there is a problem,while dissociating it from the larger socioeconomic system. The famous IPAT formula, i.e. Environmental Impact = Population x Consumption x Technology (which amounts to saying that these are the three factors behind our environmental problems/solutions), has been used by some to suggest that population growth, the consumption habits of most individuals, and inappropriate technology carry the totality of blame for environmental degradation. The answer then is sustainable population, sustainable consumption, and sustainable technology. This approach, though seemingly matter-of-fact, and deceptively radical, derives its acceptability for the vested interests from the fact that it generally serves to disguise the more fundamental reality of the treadmill of capitalist production itself.29 The third stage of denial, a last-ditch defense, and exhibiting a greater level of desperation on the part of the established order, is, I would argue, the most dangerous of all. It admits that the environmental crisis is wrapped up with the existence of capitalism, but argues that what we need is an entirely new kind of capitalism: variously called “sustainable capitalism,” “green capitalism,” “natural capitalism,” and “climate capitalism” by thinkers as various as Al Gore, Paul Hawken, Amory and L. Hunter Lovins, and Jonathon Porritt.30 The argument here varies but usually begins with the old trope that capitalism is the most efficient economic system possible—a form of “spontaneous order” arising from an invisible hand—and that the answer to ecological problems is to make it more efficient still by internalizing costs on the environment previously externalized by the system. Aside from the presumed magic of the market itself, and moral claims as to “the greening of corporations,” this is supposed to be achieved by means of a black box of technological wonders. Iamplicit in all such views is the notion that capitalism can be made sustainable, without altering its accumulation or economic growth imperative and without breaking with the dominant social relations. The exponential growth of the system ad infinitum is possible, we are told, while simultaneously generating a sustainable relation to the planet.sa This of course runs up against what Herman Daly has called the Impossibility Theorem: If the whole world were to have an ecological footprint the size of the United States we would need multiple planets.31 The idea that such a development process can persist permanently on a single planet (and indeed that we are not at this point already confronting earthly limits) is of course an exercise in delusion, bordering on belief in the supernatural. “Capitalism,” as the great environmental economist K. William Kapp once wrote, is “an economy of unpaid costs.”32 It can persist and even prosper only insofar as it is able to externalize its costs on the mass of the population and the surrounding environment. Whenever the destruction is too severe the system simply seeks to engineer another spatial fix. Yet, a planetary capitalism is from this standpoint a contradiction in terms: it means that there is nowhere finally to externalize the social and environmental costs of capitalist destruction (we cannot ship our toxic waste into outer space!), and no external resources to draw upon in the face of the enormous squandering of resources inherent to the system (we can’t solve our problems by mining the moon!).

Market-based solutions to climate change, such as emissions trading, have been shown to promote profits, and to facilitate economic growth and financial wealth, while increasing carbon emissions. From an environmental standpoint, therefore, they are worse than nothing—since they stand in the way of effective action. Nor are the technologies most acceptable to the system (since not requiring changes in property relations) the answer. So-called “clean coal” or carbon capture and storage technologies are economically unfeasible and ecologically dubious, and serve mainly as an ideological justification for keeping coal-fired plants going. Worse still, are geoengineering schemes like dumping sulfur particles in the atmosphere or iron filings in the ocean (the first in order to deflect the sun’s rays, the second in order to promote algal growth to increase ocean absorption of carbon). These schemes carry with them the potential for even greater ecological disasters: in the first case, this could lead to a reduction of photosynthesis, in the second the expansion of dead zones. Remember the Sorcerer’s Apprentice!33 The potential for the accumulation of catastrophe on a truly planetary level as a result of geoengineering technology is so great that it would be absolute folly to proceed in this way—simply in order to avoid changes in the mode of production, i.e., a fundamental transformation of our way of life, property relations, and metabolism with nature. Science tells us that we are crossing planetary boundaries everywhere we look, from climate change, to ocean acidification, to species destruction, to freshwater shortages, to chemical pollution of air, water, soil, and humans. The latest warning sign is the advent of what is called “extreme weather”—a direct outgrowth of climate change. As Hansen says: “Global warming increases the intensity of droughts and heat waves, and thus the area of forest fires. However, because a warmer atmosphere holds more water vapor, global warming must also increase the intensity of the other extreme of the hydrologic cycle—meaning heavier rains, more extreme floods, and more intense storms driven by latent heat.” Scientists involved in the new area of climate-attribution science, where extreme weather events are examined for their climate signatures, are now arguing that we are rapidly approaching a situation where the proverbial “‘hundred-year’ flood” no longer occurs simply once a century, but every few years. Natural catastrophes are thus likely to become more severe and more frequent occurrences in the lives of all living beings. The hope of some scientists is that this will finally wake up humanity to its true danger.34 How are we to understand the challenge of the enormous accumulation of catastrophe, and the no less massive human action required to address this? In the 1930s John Maynard Keynes wrote an essay entitled “Economic Possibilities of Our Grandchildren,” aimed at defending capitalism in response to revolutionary social challenges then arising. Keynes argued that we should rely for at least a couple more generations on the convenient lie of the Smithian invisible hand—accepting greed as the basis of a spontaneous economic order. We should therefore continue the pretense that “fair is foul and foul is fair” for the sake of the greater accumulation of wealth in society that such an approach would bring. Eventually, in the time of our “grandchildren”—maybe a “hundred years” hence (i.e., by the early 2030s)—Keynes assumed, the added wealth created by these means would be great enough that we could begin to tell the truth: that foul is foul and fair is fair. It would then be necessary for humanity to address the enormous inequalities and injustices produced by the system, engaging in a full-scale redistribution of wealth, and a radical transformation of the ends of production.35 Yet, the continued pursuit of Keynes’s convenient lie over the last eight decades has led to a world far more polarized and beset with contradictions than he could have foreseen. It is a world prey to the enormous unintended consequences of accumulation without limits: namely, global economic stagnation, financial crisis, and planetary ecological destruction. Keynes, though aware of some of the negative economic aspects of capitalist production, had no real understanding of the ecological perils—of which scientists had already long been warning. Today these perils are impossible to overlook. Faced with impending ecological catastrophe, it is more necessary than ever to abandon Keynes’s convenient lie and espouse the truth: that foul is foul and fair is fair. Capitalism, the society of “après moi le déluge!” is a system that fouls its own nest—both the human-social conditions and the wider natural environment on which it depends. The accumulation of capital is at the same time accumulation of catastrophe, not only for a majority of the world’s people, but living species generally. Hence, nothing is fairer—more just, more beautiful, and more necessary—today than the struggle to overthrow the regime of capital and to create a system of substantive equality and sustainable human development; a socialism for the twenty-first century.

#### SMRs ensure meltdowns

Smith 11

(Gar, Journal’s Editor Emeritus, “Don’t Mini-mize the Dangers of Nuclear Power” Earth Island Journal, <http://www.earthisland.org/journal/index.php/eij/article/dont_mini-mize_the_dangers_of_nuclear_power/>, SEH)

The Fukushima disaster has severely hobbled the atomic industry’s hopes for a big-ticket nuclear renaissance. So the American Nuclear Society has proposed a mini-renaissance based on “Small Modular Reactors,” or SMRs. Cheaper, quicker to build, and small enough to fit in a garage, SMRs could power homes, factories, and military bases. South Carolina’s Savannah River National Laboratory hopes to start building SMRs at a New Mexico plant and is taking a lead role in a GE-Hitachi demonstration project.¶ Even as Japanese engineers were working to contain the radiation risks at Fukushima, an international SMR conference in South Carolina in April attracted representatives from Westinghouse, AREVA, GE, the International Atomic Energy Agency, China National Nuclear Corp., Iraq Energy Institute, the US Army, and many US utilities.¶ But SMRs still depend on designs that generate intense heat, employ dangerous materials (highly reactive sodium coolant), and generate nuclear waste. SMRs also retain all the risks associated with supplying, maintaining, safeguarding, and dismantling large nuclear reactors – only now those risks would be multiplied and decentralized.¶ The planet can’t afford nuclear energy – be it mega or mini. As Dave Brower observed 30 years ago: “Is the minor convenience of allowing the present generation the luxury of doubling its energy consumption every 10 years worth the major hazard of exposing the next 20,000 generations to this lethal waste?¶ “We are at the edge of an abyss and we’re close to being irrevocably lost,” Dave warned. “As the Welshman Allen Reese puts it: ‘At the edge of the abyss, the only progressive move you can make is to step back.’”

#### Decade before solvency

St. Louis Post-Dispatch ‘12

[Jeffrey Tomich, <http://www.dispatch.com/content/stories/business/2012/05/10/small-problem.html> ETB]

For all the hype, small reactors are still at least a decade away. And that’s if design, licensing and commercial development go at the pace hoped for by the nuclear industry.¶ And even then, the potential for small reactors hinges on how they compete in the energy marketplace. More than concerns about nuclear safety in the wake of the Fukushima disaster in Japan or the problem of where to dispose of highly radioactive spent nuclear fuel, the technology’s future will be dictated by economics.¶ Jackson said Westinghouse aspires to make small reactors whose costs are equal to or less than full-size reactors.¶ For now, there’s no cost data for small reactors and no firm evidence they will produce electricity at a lower price than larger plants.¶ “It’s too early to determine that,” Klein said. “We’re going to have to see some built.”

#### No impact to cyber attacks

Rid 12

(Thomas, reader in war studies at King's College London, is author of "Cyber War Will Not Take Place" and co-author of "Cyber-Weapons;” March/April, “Think Again: Cyberwar,” Foreign Policy, http://www.foreignpolicy.com/articles/2012/02/27/cyberwar)

"A Digital Pearl Harbor Is Only a Matter of Time." Keep waiting. U.S. Defense Secretary Leon Panetta delivered a stark warning last summer: "We could face a cyberattack that could be the equivalent of Pearl Harbor." Such alarmist predictions have been ricocheting inside the Beltway for the past two decades, and some scaremongers have even upped the ante by raising the alarm about a cyber 9/11. In his 2010 book, Cyber War, former White House counterterrorism czar Richard Clarke invokes the specter of nationwide power blackouts, planes falling out of the sky, trains derailing, refineries burning, pipelines exploding, poisonous gas clouds wafting, and satellites spinning out of orbit -- events that would make the 2001 attacks pale in comparison. But the empirical record is less hair-raising, even by the standards of the most drastic example available. Gen. Keith Alexander, head of U.S. Cyber Command (established in 2010 and now boasting a budget of more than $3 billion), shared his worst fears in an April 2011 speech at the University of Rhode Island: "What I'm concerned about are destructive attacks," Alexander said, "those that are coming." He then invoked a remarkable accident at Russia's Sayano-Shushenskaya hydroelectric plant to highlight the kind of damage a cyberattack might be able to cause. Shortly after midnight on Aug. 17, 2009, a 900-ton turbine was ripped out of its seat by a so-called "water hammer," a sudden surge in water pressure that then caused a transformer explosion. The turbine's unusually high vibrations had worn down the bolts that kept its cover in place, and an offline sensor failed to detect the malfunction. Seventy-five people died in the accident, energy prices in Russia rose, and rebuilding the plant is slated to cost $1.3 billion. Tough luck for the Russians, but here's what the head of Cyber Command didn't say: The ill-fated turbine had been malfunctioning for some time, and the plant's management was notoriously poor. On top of that, the key event that ultimately triggered the catastrophe seems to have been a fire at Bratsk power station, about 500 miles away. Because the energy supply from Bratsk dropped, authorities remotely increased the burden on the Sayano-Shushenskaya plant. The sudden spike overwhelmed the turbine, which was two months shy of reaching the end of its 30-year life cycle, sparking the catastrophe. If anything, the Sayano-Shushenskaya incident highlights how difficult a devastating attack would be to mount. The plant's washout was an accident at the end of a complicated and unique chain of events. Anticipating such vulnerabilities in advance is extraordinarily difficult even for insiders; creating comparable coincidences from cyberspace would be a daunting challenge at best for outsiders. If this is the most drastic incident Cyber Command can conjure up, perhaps it's time for everyone to take a deep breath.¶ "Cyberattacks Are Becoming Easier." Just the opposite. U.S. Director of National Intelligence James R. Clapper warned last year that the volume of malicious software on American networks had more than tripled since 2009 and that more than 60,000 pieces of malware are now discovered every day. The United States, he said, is undergoing "a phenomenon known as 'convergence,' which amplifies the opportunity for disruptive cyberattacks, including against physical infrastructures." ("Digital convergence" is a snazzy term for a simple thing: more and more devices able to talk to each other, and formerly separate industries and activities able to work together.) Just because there's more malware, however, doesn't mean that attacks are becoming easier. In fact, potentially damaging or life-threatening cyberattacks should be more difficult to pull off. Why? Sensitive systems generally have built-in redundancy and safety systems, meaning an attacker's likely objective will not be to shut down a system, since merely forcing the shutdown of one control system, say a power plant, could trigger a backup and cause operators to start looking for the bug. To work as an effective weapon, malware would have to influence an active process -- but not bring it to a screeching halt. If the malicious activity extends over a lengthy period, it has to remain stealthy. That's a more difficult trick than hitting the virtual off-button. Take Stuxnet, the worm that sabotaged Iran's nuclear program in 2010. It didn't just crudely shut down the centrifuges at the Natanz nuclear facility; rather, the worm subtly manipulated the system. Stuxnet stealthily infiltrated the plant's networks, then hopped onto the protected control systems, intercepted input values from sensors, recorded these data, and then provided the legitimate controller code with pre-recorded fake input signals, according to researchers who have studied the worm. Its objective was not just to fool operators in a control room, but also to circumvent digital safety and monitoring systems so it could secretly manipulate the actual processes. Building and deploying Stuxnet required extremely detailed intelligence about the systems it was supposed to compromise, and the same will be true for other dangerous cyberweapons. Yes, "convergence," standardization, and sloppy defense of control-systems software could increase the risk of generic attacks, but the same trend has also caused defenses against the most coveted targets to improve steadily and has made reprogramming highly specific installations on legacy systems more complex, not less.¶ "Cyberweapons Can Create Massive Collateral Damage." Very unlikely. When news of Stuxnet broke, the New York Times reported that the most striking aspect of the new weapon was the "collateral damage" it created. The malicious program was "splattered on thousands of computer systems around the world, and much of its impact has been on those systems, rather than on what appears to have been its intended target, Iranian equipment," the Times reported. Such descriptions encouraged the view that computer viruses are akin to highly contagious biological viruses that, once unleashed from the lab, will turn against all vulnerable systems, not just their intended targets. But this metaphor is deeply flawed. As the destructive potential of a cyberweapon grows, the likelihood that it could do far-reaching damage across many systems shrinks. Stuxnet did infect more than 100,000 computers -- mainly in Iran, Indonesia, and India, though also in Europe and the United States. But it was so specifically programmed that it didn't actually damage those machines, afflicting only Iran's centrifuges at Natanz. The worm's aggressive infection strategy was designed to maximize the likelihood that it would reach its intended target. Because that final target was not networked, "all the functionality required to sabotage a system was embedded directly in the Stuxnet executable," the security software company Symantec observed in its analysis of the worm's code. So yes, Stuxnet was "splattered" far and wide, but it only executed its damaging payload where it was supposed to. Collateral infection, in short, is not necessarily collateral damage. A sophisticated piece of malware may aggressively infect many systems, but if there is an intended target, the infection will likely have a distinct payload that will be harmless to most computers. Especially in the context of more sophisticated cyberweapons, the image of inadvertent collateral damage doesn't hold up. They're more like a flu virus that only makes one family sick.¶ "In Cyberspace, Offense Dominates Defense." Wrong again. The information age has "offense-dominant attributes," Arquilla and Ronfeldt wrote in their influential 1996 book, The Advent of Netwar. This view has spread through the American defense establishment like, well, a virus. A 2011 Pentagon report on cyberspace stressed "the advantage currently enjoyed by the offense in cyberwarfare." The intelligence community stressed the same point in its annual threat report to Congress last year, arguing that offensive tactics -- known as vulnerability discovery and exploitation -- are evolving more rapidly than the federal government and industry can adapt their defensive best practices. The conclusion seemed obvious: Cyberattackers have the advantage over cyberdefenders, "with the trend likely getting worse over the next five years." A closer examination of the record, however, reveals three factors that put the offense at a disadvantage. First is the high cost of developing a cyberweapon, in terms of time, talent, and target intelligence needed. Stuxnet, experts speculate, took a superb team and a lot of time. Second, the potential for generic offensive weapons may be far smaller than assumed for the same reasons, and significant investments in highly specific attack programs may be deployable only against a very limited target set. Third, once developed, an offensive tool is likely to have a far shorter half-life than the defensive measures put in place against it. Even worse, a weapon may only be able to strike a single time; once the exploits of a specialized piece of malware are discovered, the most critical systems will likely be patched and fixed quickly. And a weapon, even a potent one, is not much of a weapon if an attack cannot be repeated. Any political threat relies on the credible threat to attack or to replicate a successful attack. If that were in doubt, the coercive power of a cyberattack would be drastically reduced.

#### Military going off grid now

Pacific Business News 10

(Sophie Cocke, “Barking Sands Going Off Grid” <http://islandbreath.blogspot.com/2010/09/barking-sands-going-off-grid.html>, SEH)

Risks of disruption to foreign oil supplies, rising costs of a declining resources and concerns about the security of the nation’s electric grids have spurred efforts to cultivate alternative-energy sources and curtail energy use, according to reports from the U.S. Pacific Command and the Center for Naval Analyses Military Advisory Board.¶ Security of the electric grid is of particular concern.¶ “A fragile domestic electricity grid makes our domestic military installations, and their critical infrastructure, unnecessarily vulnerable to incident, whether deliberate or accidental,” according to a report by the Center Naval Analyses Military Advisory Board.¶ The military also plans to “island” other Hawaii installations, including Schofield Barracks, Kaneohe Marine Corps Base, the Joint Base Pearl Harbor-Hickam and Fort Shafter.¶ But, given that the military is Hawaii’s single largest consumer of electricity, using on average three gigawatts of electricity a day, the impact that its move off-grid could have on consumer rates has caused some concern.¶ “There’s no doubt that more of the burden shifts to the residents as more people who have the means to go off-grid do,” said Brad Rockwell, program manager for the Kauai Island Utility Cooperative. “It will definitely impact us and we would hope they wouldn’t go in that direction. We’ve always had a good relationship with them and hope that we can help them meet their needs as they help us meet ours.”¶ The missile range buys on average 12.5 million kilowatt-hours of electricity a year from the Kauai Island Utility Cooperative, or approximately 3 percent of the utility’s energy sales. With average rates of 32 cents per kilowatt hour, this amounts to a $4 million-a-year energy bill for the Navy.¶ While taking bases off-line could affect consumer rates, a report by the Pacific Command details several ways in which it also can benefit the community, including assisting residents if there is an electrical outage due to a natural disaster. If smart-grid technology is implemented, the bases also can feed excess energy back into Kauai’s electric grid.

#### DOD taking efforts to shield itself from grid outages now

GAO 9

(Government Accountability Office, “Defense Critical Infrastructure:” <http://www.gao.gov/assets/300/297169.html>, SEH)

DOD has taken some steps to assure the availability of its electrical ¶ power supplies by identifying and addressing the vulnerabilities and ¶ risks of its critical assets to electrical power disruptions. For ¶ example, from August 2005 through October 2008, DOD issued Defense ¶ Critical Infrastructure Program guidance for identifying critical ¶ assets, assessing their vulnerabilities, and making risk management ¶ decisions about those vulnerabilities. Also, as previously discussed, ¶ DOD has conducted DCIP vulnerability assessments on 14 of the 34 most ¶ critical assets and has scheduled assessments for 13 of the remaining ¶ assets, but it has not yet scheduled assessments for 5 of the non-DOD- ¶ owned most critical assets.[Footnote 56] The DCIP vulnerability ¶ assessments conducted so far have identified specific electrical power- ¶ related vulnerabilities to some of the critical assets, including ¶ vulnerabilities associated with the reliability of the assets' ¶ supporting commercial electrical power grid, the availability of backup ¶ electrical power supplies, and single points of failure in electrical ¶ power systems supporting the assets.[Footnote 57] Addressing the risks ¶ associated with these vulnerabilities--by remediating, mitigating, or ¶ accepting those risks--can help DOD assure the availability of ¶ electrical power to the critical assets. For example, at all 6 most ¶ critical assets we visited, the DOD asset owners have installed diesel- ¶ based electrical power generators as backup sources of electricity ¶ during electrical power disruptions. Other (non-DCIP) DOD mission ¶ assurance programs also have the potential to help DOD assure the ¶ availability of electrical power supplies to its most critical assets. ¶ For example, we found that Joint Service Integrated Vulnerability ¶ Assessments and similar vulnerability assessments from the military ¶ services, which have been conducted on some of the installations with ¶ critical assets for antiterrorism and force protection purposes, also ¶ have identified vulnerabilities related to electrical power. ¶ Furthermore, DOD also has taken steps to coordinate with other federal ¶ agencies, including DOE and DHS, as well as electrical industry ¶ organizations, and these steps may help to assure the supply of ¶ electricity to its critical assets. For example, to represent its ¶ concerns and interests on electricity, DOD participates in the Energy ¶ Government Coordinating Council. The council provides DOD and other ¶ federal agencies with a forum for sharing their concerns, comments, and ¶ questions on energy-related matters--including critical infrastructure ¶ protection--with DOE, which chairs the group.[Footnote 58] In another ¶ effort involving DOE, several DOD combatant commands--including U.S. ¶ European Command and U.S. Africa Command--have recently agreed to ¶ accept a DOE departmental representative to serve as an energy attaché ¶ to the commands. The DOE representatives will provide energy-related ¶ expertise to their respective commands, particularly with respect to ¶ the commands' energy-related planning activities and the security and ¶ reliability of the commands' energy infrastructure. DOD has also ¶ partnered with various federal agencies and industry organizations to ¶ further increase the assurance of electrical power. For example, DOD ¶ serves as co-chair of the federal Task Force on Electric Grid ¶ Vulnerability of the National Science and Technology Council's ¶ Committee on Homeland and National Security, which was established in ¶ January 2009 to identify research and development needs for electrical ¶ grid vulnerabilities and to coordinate with other federal agencies to ¶ address those needs.[Footnote 59] In addition, DOD officials are ¶ collaborating with a working group established by the Edison Electric ¶ Institute in early 2009 called the Energy Security Partnership Group. ¶ The group focuses on improving communications between DOD and its ¶ utilities and on identifying and removing barriers to the development ¶ of comprehensive energy security programs at DOD installations. Also, ¶ in July 2009, DOD participated in an interagency exercise cosponsored ¶ by DHS, DOE, and DOD called Secure Grid 2009, Electric Grid Tabletop ¶ Exercise, for which officials from DOD, DOE, DHS, the Federal Energy ¶ Regulatory Commission, the North American Electric Reliability ¶ Corporation, and the Edison Electric Institute, among others, jointly ¶ developed recommendations and potential responses to two scenarios ¶ involving theoretical physical and cyber-related attacks on U.S. ¶ electrical power grids. ¶ Our survey results confirm that some steps are being taken at various ¶ levels within DOD to improve the assurance of electrical power supplies ¶ to its most critical assets. For example, according to the survey and ¶ reports we reviewed, DOD conducted vulnerability and risk assessments ¶ involving electrical power on 24 of the most critical assets through a ¶ variety of DOD mission assurance reviews, including DCIP assessments, ¶ Joint Staff Integrated Vulnerability Assessments, combatant command ¶ assessments, DOD agency assessments, and local installation ¶ assessments. The survey results also indicate that secondary sources of ¶ electricity--such as uninterruptible power supply systems and diesel ¶ generators--provide some backup electrical power capabilities to almost ¶ all of the critical assets. In addition, according to the survey, asset ¶ owners and host installations for some of the critical assets whose ¶ vulnerabilities have been assessed have taken specific measures to ¶ address those vulnerabilities, such as eliminating single points of ¶ failure, developing electrical power disruption contingency plans, ¶ installing emergency electrical power generators, and increasing ¶ physical security measures around electrical power facilities.

####  Military bases going off grid now

Pacific Business News 10

(Sophie Cocke, “Barking Sands Going Off Grid” <http://islandbreath.blogspot.com/2010/09/barking-sands-going-off-grid.html>, SEH)

The Pacific Missile Range Facility in Barking Sands, Kauai, aims to generate all its electricity off-grid by 2015.¶ The goal is part of a clean-energy initiative under way at the Naval facility that employs between 900 and 1,300 workers.¶ The more than 200 lights that line the missile range’s 6,000-foot runway are now powered by the sun, as are the street lights. The base is seeking bids on a contract to install photovoltaics on 10 rooftops and is collaborating with Kauai County to capture methane gas from a landfill to generate power.¶ Its renewable-energy strides are coupled with efforts to retrofit the base with energy-efficient lighting and appliances and install advanced meters that allow personnel to monitor energy usage. The base reduced electricity usage by almost 15 percent between 2008 and 2009.¶ “I’m quite proud of the efforts that have been made out here,” said base spokesman Tom Clements.

#### Can’t solve foreign use- too many hurdles

U.S. Department of Commerce International Trade Administration 11

(“The Commercial Outlook for¶ U.S. Small Modular Nuclear¶ Reactors” <http://www.trade.gov/publications/pdfs/the-commercial-outlook-for-us-small-modular-nuclear-reactors.pdf>, SEH)

Some significant challenges to eventual SMR ¶ deployment exist. Some of those barriers relate to ¶ foreign markets, such as the need for additional ¶ bilateral nuclear cooperation agreements with ¶ foreign countries, intense foreign competition (often from state-owned enterprises), and the lack of ¶ a global nuclear liability regime. Other obstacles ¶ are domestic. Those issues include the erosion ¶ of U.S. nuclear manufacturing capacity and the ¶ need for strong government assistance, such as ¶ manufacturing tax credits and loan guarantees ¶ specifically for manufacturers. Although technical hurdles remain before SMRs will be ready for ¶ commercial use, overcoming the other obstacles ¶ will be critical to the eventual deployment of U.S. ¶ SMRs.

#### Neg- Can’t solve nuclear use- poor economics, safety requirements, and waste issues

Domenici and Miller 7/1

(“Pete, BPC Senior Fellow ¶ Co-chair, BPC Nuclear Initiative, Warren, Co-chair, BPC Nuclear Initiative

Former Assistant Secretary for Nuclear Energy, U.S. Department of Energy, “Maintaining U.S. ¶ Leadership in Global ¶ Nuclear Energy Markets” <http://bipartisanpolicy.org/sites/default/files/Leadership%20in%20Nuclear%20Energy%20Markets.pdf>, SEH)

Set against this considerable legacy of institutional and technological dominance, however, ¶ are the many real challenges the U.S. industry confronts today, on multiple fronts—poor ¶ economics, increased safety and security requirements, and uncertainty about the ¶ resolution of the waste management issue. The crisis at the Fukushima Daiichi plant focused ¶ the attention of regulators and the public on the need for continued attention to safety and ¶ security at existing reactors, particularly as some of the older plants approach the end of their extended 60-year license periods. In 2029, the earliest licensed plant will reach the ¶ 60-year operation limit, and, after that, approximately one-third of the fleet will quickly ¶ follow. While some plants may engage in another round of relicensing for up to 80 years, a ¶ significant fraction likely will be retired and replaced by newer-generation resources ¶ (potentially including some nuclear replacements

#### SMRs aren’t economical- cheap natural gas

Forbes ‘12

[Jeff McMahon. Genoa= Paul Genoa, Senior Director of Policy Development at the Nuclear Energy Institute. http://www.forbes.com/sites/jeffmcmahon/2012/05/23/small-modular-reactors-by-2022-but-no-market-for-them/ ETB]

The same summary records doubt that SMRs can compete in a market increasingly dominated by cheap natural gas. Nuclear Consultant Philip Moor told Senate staff that SMRs can compete if natural gas costs $7 to $8 per million BTU—gas currently costs only $2 per MBTU—or if carbon taxes are implemented, a scenario political experts deem unlikely.¶ “Like Mr. Moor, Mr. Genoa also sees the economic feasibility of SMRs as the final challenge. With inexpensive natural gas prices and no carbon tax, the economics don’t work in the favor of SMRs,” according to the summary.