# 1AC

## plan

#### The United States Federal Government should reduce greenhouse gas new source performance standards for coal fired energy generation units, clarifying that the Environmental Protection Agency lacks the authority to implement these standards under the Clean Air Act.

## adv 1

#### GHG NSPS rule prohibits new coal production—kills the industry

Peter Glaser, Troutman Sanders, LLP, 5/31/12, ADMINISTRATION ENERGY POLICIES, Congressional Testimony, Lexis

EPA's proposed GHG NSPS would also kill new coal-fueled units. The rule sets a performance level for new coal units equivalent to what EPA says a combined cycle natural gas combustion turbine can meet - 1000 lbs. CO2/MWh. Yet EPA recognizes that even a modern, efficient supercritical coal plant can only meet a standard of 1800 lbs. CO2/MWh. EPA says that a coal plant with carbon capture and storage (CCS) could meet the 1000-lb. standard, but it also recognizes that CCS technology is not commercially competitive. It cites to Department of Energy/National Energy Technology Laboratory "estimates that using today's commercially available CCS technologies would add around 80 percent to the cost of electricity for a new pulverized coal (PC) plant." CCS is a technology that holds promise, but it has not been demonstrated to be commercially available at scale. As important, the basic legal and regulatory architecture is not in place to make CCS a reality. There is no comprehensive permitting system for storing CO2 underground for the very long time periods required, nor is there a liability structure in place to cover potential liabilities over this long term. A July 22, 2009 paper prepared for the American Public Power Association entitled Geologic CO2 Sequestration, Issue Spotting and Analysis White Paper, details the numerous legal and regulatory impediments that must be resolved before CCS can become a commercial reality. Nearly three years later, these impediments remain unresolved. As the Administration's CCS task force explains:

In addition to the challenges associated with cost, these projects will need to meet regulatory requirements that are currently under development. Long-standing regulatory programs are being adapted to meet the circumstances of CCS, but limited experience and institutional capacity at the Federal and State level may hinder implementation of CCS-specific requirements. Key legal issues, such as long-term liability and property rights, also need resolution.

August 2010, at 2. Hence, for EPA to say that new coal generation can be built if it uses CCS is no different than EPA saying that no new coal plants can be built for the foreseeable future. EPA states in the proposed GHG NSPS rule that the rule will incent CCS and that CCS costs will come down over time as more units are built, but the opposite is the case. It may be true in general that the cost of the first unit in a new industry is high, while the cost of the thousandth unit is lower, but that maxim won't apply in an industry where no one is allowed to build coal plants. There will be no way to get from the first unit to the thousandth unit. EPA also states that new coal plants installing CCS can average their emissions over 30 years to meet the 1000- lb. standard. EPA states that a new unit meeting an 1800-lb. standard in the first ten years of operation will be deemed to meet the standard over 30 years if it eventually installs CCS and its 30-year average emission are 1000 lbs. But this proposal is just a mirage. No unit can get financed if it will violate EPA standards in 10 years unless it installs technology that, at best, is only projected to be available in 10 years. Lending institutions putting more than a billion dollars at risk will require considerably more certainty than the possibility that the unit will avoid violating regulatory standards if in 10 years CCS technology proves to be ready both commercially and as matter of law and regulation.

#### Crushes electricity reliability—causes cascading blackouts

Scott Segal, Electricity Reliability Coordinating Council Director, 6/25/12, ERCC Comments Submitted to EPA on the New Source Performance Standards for Power Plant Carbon Emissions, www.electricreliability.org/ercc-comments-submitted-epa-new-source-performance-standards-power-plant-carbon-emissions

Given the regulatory uncertainty related to future EPA regulations on a wide variety of energy sources—and not just coal—keeping all options on the table for energy generation, as the President has suggested multiple times, is essential to maintaining America’s energy supply.

In recent years, coal-fired power plants have provided 40 to 50 percent of the electricity used by US consumers and businesses each year. The number is lower now due to pending EPA regulations and market conditions associated with the price of natural gas, but even today, notwithstanding the historically low cost of natural gas and newly adopted regulatory obstacles for coal, several power producers in the U.S. are seeking to develop new state-of-the-art coal-fired power plants for a variety of reasons. Some of them are concerned about the historic volatility in natural gas prices and their inability to obtain long-term contracts with stable pricing for natural gas, preferring the long-term price stability that comes with coal. Some of them are developing new plants in areas that have localized, economical supplies of coal or other solid fuel. Others simply do not want to put all their eggs in one basket and want to maintain fuel diversity in their generation mix. Despite EPA’s recognition that the CAA requires the agency to consider “energy requirements” in connection with proposed standards of performance, the proposed rule does not even consider these important energy policy issues.[13] As aging coal-fired power plants are forced to shut down due to other EPA air pollution regulations and additional plants are temporarily idled to install mandated pollution controls, we need to ensure a reliable stream of electrical power is available to meet the nation’s energy needs.

As a result of the combination of EPA’s regulations, including the proposed rule and the inevitable 111(d) rule for existing coal-fired units, the country may experience a shortage of electricity, and the reliability of our electricity grid will face substantial risks. The loss of future coal-fired generation, investment in current coal-fired generation, and closures of existing coal-fired generation capacity that may result from the combination of the proposed rule and other EPA regulatory actions risks a variety of reliability problems. In most cases, coal-fired plants cannot be replaced overnight by natural gas plants, as the time it takes to install pipeline and other infrastructure necessary even to begin conversion of an old plant or construction of a new one is considerable. Additionally, as NARUC Chair David Wright testified recently, coal-fired generation is an important aspect of “resource diversity,” and EPA needs to “recognize the needs of States and regions to deploy a diverse portfolio of cost-effective supply-side and demand-side resources based on their own unique circumstances and characteristics.”[14] ERCC is concerned that the proposed rule establishes a future for electricity generation that is narrowly prescribed to a small group of technologies, some of which do not even exist commercially at this time, and that EPA’s plan for the future risks disruption in the reliable supply of electricity.

EPA needs to carefully consider the consequences of polices that may not allow for a flexible and reliable supply of electricity, because the impacts of reliability problems can be devastating. The downside impacts of reduced electric reliability are substantial and must be taken into account in any responsible analysis of the proposed rule. As ISO New England has stated:

A reliable supply of electricity is a foundation of our prosperity and quality of life. Without it, our world literally grinds to a halt—businesses cannot plan and operate productively, hospitals and schools cannot provide their essential services, and residents cannot depend on the electricity they need simply to live their daily lives. Without reliable electricity, the financial and societal costs would be enormous.[15]

The Institute of Electrical and Electronics Engineers of the U.S. (IEE-USA) has further observed that even minor occurrences in the electric power grid can sometimes lead to catastrophic ‘cascading’ blackouts, and that the loss of a single generator can result in an imbalance between load and generation. The resulting blackouts cause incalculable economic damage. For example, the direct costs to high-technology manufacturing in the San Francisco Bay Area alone during the California blackouts alone ran as high as one million dollars a minute due to lost production, and the relatively brief Northeast blackout of 2003 cost business about $13 billion in lost productivity.[16] These are costs that the our economy and communities cannot afford to bear, and EPA needs to carefully consider reliability concerns before moving forward with the proposed rule.

#### Grid impact d is wrong—cascading blackouts likely

Peter Glaser, Troutman Sanders, LLP, 5/31/12, ADMINISTRATION ENERGY POLICIES, Congressional Testimony, Lexis

Impacts of the EPA Rules on the Reliability of the Electric Grid

The wave of retirements caused by EPA's rules - combined with the fact that most coalfueled units that are not retiring must be temporarily pulled from service in the next 2-3 years to install extensive pollution control equipment - threatens to undermine the reliability of the electric grid and to increase electric rates to consumers. The North American Electric Reliability Corporation (NERC), in its most recent long-term assessment of grid reliability, termed EPA regulation the number one risk to reliability. According to NERC, 1350 electric generating units at 525 stations will be required by these rules either to install controls or retire in the next several years.

This risk is being experienced across the gird, and the issue is not just whether the lights will stay on but how much it will cost to keep the lights on. Both the Electric Reliability Corporation of Texas (ERCOT), which is responsible for grid operations in most of Texas, and the Southwest Power Pool, which is responsible for grid operations in all or parts of 8 southwestern states, concluded that CSAPR threatens the ability of those organizations to keep the lights on. According to an SPP September 9, 2011 letter to EPA on CSAPR, there will be "negative implications to the reliable operation of the electric grid in the SPP region raising the possibility of rolling blackouts or cascading outages that would likely have significant impacts on human health, public safety and commercial activity." (Emphasis supplied.)

The Midwest Independent System Operator (MISO), which is responsible for interstate grid operations in a region consisting of all or parts of 11 U.S. states and the Canadian province of Manitoba estimates that 61 of 71 GW of baseload coal in the MISO region will require some action to comply with EPA's regulations over the next three years or sooner. Of those 61 GW, 13 GW are at immediate risk of retirement, according to MISO. MISO estimates that it will cost ratepayers $33 billion to retrofit or replace the 61 GW. MISO describes reserve margins as "plummeting." For example, "[r]etirement of 13 GW of coal-fired generation would cause MISO's current projected reserve margin for 2016 to plunge to 8.3 percent - 9.1 percent short of our required 17.4 percent reserve margin."

The problem may be similar in the 13-state (and District of Columbia) PJM region, where, according to PJM, 14 GW of generation have already announced plans to retire between May 2012 and 2015, "enough generation to produce enough power to supply Indiana's needs for a year." To alleviate the reliability problem, PJM recently approved nearly $2 billion to fund the cost of 130 separate electric transmission upgrades during this period. This is an unprecedented number of projects occurring simultaneously in the region, and with transmission development always being controversial and some of these projects requiring new rights-of-way, the prospect that all of these projects will not get built in time is concerning.

The recent PJM capacity auction for 2015-16 may be a harbinger of things to come. Capacity prices for PJM have been significantly increasing in the last several annual auctions, so that capacity payments for electricity delivered in 2015 - the year the UMACT takes effect - would be $137 per megawatt/month for most of PJM as compared to $16 today. This effect is most pronounced in northern Ohio, including Cleveland, which has significant transmission bottlenecks. In this area, capacity prices in the most recent auction skyrocketed to $357. These high capacity prices may occur in other regions to the extent PJM transmission upgrades do not keep up with EPA-forced coal plant retirements, and new bottlenecks emerge.

EPA's response to all of this is to say that any grid reliability problems are local and can be solved. It is true that, as EPA belatedly recognizes, the perhaps the greatest problem its regulations pose to grid reliability is "local" in the sense that many of the retiring units, although they don't run frequently, are needed for local reliability reasons - in order to provide voltage support and black-start capability, and to provide critical additional power to the grid on the hottest days of the year. But calling a problem "local" does not mean it is confined to someone's neighborhood. Last year's blackout in San Diego and other areas of the southwest that affected more than a million people began with the actions of a single utility worker in Yuma, Arizona. The Northeast blackout of 2003 that affected an estimated 10 million people in Ontario and 45 million people in eight U.S. states began with conditions on one utility's system in the same area of northern Ohio where the current bottleneck exists.

Failure to Study and Adequately Address Grid Reliability Problem

Perhaps the most interesting facet of how EPA's regulations will affect the grid is that no one, not EPA, not FERC or anyone else, has attempted to study what the actual impact will be - and therefore what the cost of maintaining grid reliability will be. EPA's assessment of the effect its own rules will have on grid reliability consists of rule-by-rule resource adequacy analyses that examine whether the number of retirements that EPA (under)predicts will cause regional generation to fall below reserve requirements. In conducting that assessment, EPA assumed that power on the grid flows freely within broad regions and between regions. But that assumption is demonstrably wrong, as the grid is subject to bottlenecks that impede the flow of power and local reliability requirements that require local generation or additional transmission.

As the Federal Energy Regulatory Commission (FERC), NERC, regional transmission organizations (RTOs) and Independent System Operators (ISOs), and others have told EPA, the key concern for grid reliability is where retirements occur, as a unit in a particular location that is forced to retire could cause cascading reliability problems even in a region with overall excess power reserves. As FERC Chairman Wellinghoff testified at a September 14, 2011 hearing before the Subcommittee on Energy and Power of the House Energy and Commerce Committee, regional and national resource adequacy studies of the type EPA conducted are "irrelevant" in assessing reliability. (Emphasis added). And as FERC Commissioner Moeller stated in an August 1, 2011 response to Senator Murkowski, referring to issues that relate to localized reliability concerns, "[a]ccording to the information that I received from Commission staff, they have pointed out to EPA that a reliability analysis should explore transmission flows on the grid, reactive power deficiencies related to closures, loss of frequency response, black start capability, local area constraints, and transmission deliverability." Yet this study was never done.

#### Extinction

Marlo Lewis, Senior Fellow Competitive Enterprise Institute, 6/25/2008, House Permanent Select Committee on Intelligence, House Select Committee on Energy Independence and Global Warming, http://cei.org/cei\_files/fm/active/0/Statement%2520of%2520Marlo%2520Lewis.pdf

Notice what they leave out. The report does not consider whether climate change policy could adversely affect the U.S. industrial base, the combat readiness of U.S. armed forces, global food and energy supplies, or international stability. Nor does it advise DOD to assess these risks in future studies.

So let’s consider some of the geopolitical risks global warming policies may create.

“Money,” an old adage declares, “is the sinews of war.” If we learned anything from the Cold War, it is that economic power is the foundation of military power. The Soviet Union imploded because it lacked the economic base to support its military and geopolitical empire. U.S. economic might was critical to winning the Cold War—as it was to winning World War I and World War II.

At the risk of belaboring the obvious, there is always in democratic politics a tradeoff between guns and butter. It is harder in tough economic times than in prosperous times to raise the funds required to recruit, train, and equip the armed forces. It is harder to sustain public support for military interventions abroad when unemployment and malaise are rising on the home front.

So to the extent that climate policies pose a risk to U.S. economic growth, they also pose a risk to U.S. military strength and defense preparedness.

In this light, let’s consider the Lieberman-Warner bill, which would require a 70-percent reduction in U.S. carbon dioxide emissions by 2050. CEI commissioned University of Guelph economist Dr. Ross McKitrick to assess both the economic impacts of the Lieberman-Warner bill and the Energy Information Administration’s analysis of the bill. The EIA estimates that up to 1 million manufacturing jobs could by lost by 2030.8 However, this is likely an underestimate, because the EIA’s reference case assumes rates of population growth, emissions growth, and income growth that are significantly lower than the long-term rates over the past 45 years.9

In his forthcoming paper, Dr. McKitrick explains that a society’s total emissions are a product of three factors: population, per capita GDP, and the carbon intensity of production. To reduce aggregate emissions, it is necessary to reduce one or more of those three factors. And there’s the rub.

Population is growing at +1.1 percent per year. There is not much Congress can do about that. Real income is growing at about +2.2 percent per year, and presumably Congress wants that to continue. So to reduce emissions 70 percent by 2050, the other factor— emissions intensity—must decline by the following approximate amounts:

• 4.4% per year on average between 2006 and 2012

• 5.2% per year on average between 2006 and 2030

• 6.2% per year on average between 2006 and 2050

Dr. McKitrick comments: “There is no historical precedent for such rapid reductions in carbon dioxide intensity.” Indeed, the historic rate of emissions intensity decline over the past 45 years is 1.6 percent per year.

If these somewhat miraculous reductions in carbon intensity do not occur, then the only way to reach the 70-percent emission reduction target will be through big increases in energy prices leading to big declines in economic growth. This is a recipe for stagflation and worse.

In another paper CEI has commissioned, Dr. McKitrick shows what happens to per capita GDP under several climate bills if population growth and emission intensity decline continue at their historic rates.

Instead of per capita GDP more than doubling between 2005 and 2060, it falls by half or more. The American dream becomes the American nightmare.

Does it have to happen that way? No. Technology breakthroughs that dramatically lower the cost of cutting emissions may occur. But it is in the nature of breakthroughs that they are difficult to plan or even predict. Thus, under these emission reduction mandates, there is a significant risk of severe economic damage.

So again let me state the obvious: An economically weakened America would be less able to sustain its defense commitments, keep the peace, and remain vigorously engaged in the world.

The top agenda item of many global warming activists today is stopping the construction of new coal-fired power plants. No new coal power plants should be built, we are told, unless they are equipped with carbon capture and sequestration. But it could take a decade to determine whether carbon capture and storage is economical under a range of emission reduction scenarios, years to develop the regulatory framework for a carbon capture system, years to overcome NIMBY opposition, and a decade to build the infrastructure on an industrial scale.10

In the meantime, U.S. electricity demand is growing, and coal is the fuel of choice in many markets. The EIA forecasts that between 2007 and 2030, coal will provide 67 percent of all new electric generation in the United States, and new coal generation will constitute 15 percent of all U.S. electric power in 2030.11

Moratoria that effectively ban new coal-based power could create a severe supply-demand imbalance. This would not only inflate electricity and natural gas costs (demand for coal would be diverted to natural gas as an electricity fuel), it would also jeopardize electric supply reliability. Indeed, some parts of the country may experience chronic energy crises characterized by repeated power failures and blackouts.

From a national security standpoint, this poses two main risks. One is that America will increasingly resemble a Third World country where nothing works very well. We will lose our international prestige and ability to lead by example. The other risk is that terrorists will view America’s over-stretched, failure-prone electricity grid as a tempting target. They may calculate: If America’s electric supply system is tottering on the edge, why not give it a few helpful shoves?

The anti-coal campaign is, of course, not limited to the United States. Global warming activists seek to ban new coal-fired power plants not only here but also in China, India, and other developing countries. This is essential to their agenda, and for a very simple reason. The emissions from new coal plants here and elsewhere will swamp all of the emission reductions that Europe, Japan, and Canada might, in theory, achieve under the U.N. global warming treaty, the Kyoto Protocol.12 Either the global warming movement kills coal, or coal will bury Kyoto.

The campaign to ban new coal worldwide raises additional national security concerns. First, how would a global moratorium on new coal plants be enforced, and by whom? Presumably this would be accomplished, initially, via trade sanctions. Already European and U.S. leaders are calling for carbon tariffs to penalize goods from countries like China and India that refuse to limit their emissions.13 Warning: Trade wars are not always resolved peacefully! In any event, if the United States vigorously presses for a ban on new coal plants around the world, it will continually butt heads with China, India, and many other developing countries.

We often hear that the world must reduce global emissions 50 percent by 2050 to avert the more dangerous effects of global warming. Those who say this may not realize the kind of sacrifice they are asking developing countries to make. Almost all the growth in emissions over the next few decades is expected to occur in developing countries.

Analysis by the Department of Energy shows that even if the industrialized countries somehow go cold turkey by 2050 and achieve zero net emissions, developing countries would still have to cut their emissions 57 percent below baseline projections to reduce global emissions 50 percent below 2005 levels.

The “energy source” is wood chopped from the forest. The “energy transmission” system is the backs of women and girls, hauling the wood a U.N.-estimated average of 3 miles each day. The “energy use” system is burning the wood in an open fire indoors for heat and light.

These villagers breathe indoor air that is much dirtier than outdoor air in the world’s most polluted cities. Respiratory disease among this large segment of humanity is rampant and kills more than a million people a year, most of them women and children. Reliance on traditional biomass also takes a heavy toll on forests and wildlife habitat.

A coal-fired power plant would improve the lives of those villagers in Kenya in many ways. Women would be freed from backbreaking toil and could pursue more fulfilling activities. People would be healthier because indoor air quality would improve. Refrigeration would make food preparation easier and safer. Electric lighting would allow people to read and study at night. Computers and Internet access would follow. The beautiful forests and the species dependent on them would be saved.

Denying these people—and millions of others like them—access to coal-based power would be a humanitarian disaster. Some might even call it a crime against humanity. Trapping people in energy poverty will very likely make them hungry, desperate, and angry. The potential for conflict within and among countries under a global ban on coal-based power may be quite large.

Schwartz and Randall warn that abrupt climate change would cause food shortages and destabilize governments. Well, during the past six months food riots have broken out in more than 30 countries, and in at least one case—Haiti—rioters brought down the government.15 Big jumps in the price of staples—corn, wheat, and rice—are pushing millions of people below the absolute poverty line.16

Today’s food price inflation has several causes including a weak dollar, high oil prices, drought, and surging demand in India and China. But one factor fueling this crisis is a global warming policy—government subsidies and mandates for corn ethanol production.17 Biofuels provide only about 1.5 percent of total motor fuel liquids, yet they accounted for almost half the increase in global consumption of major food crops in 2006-07, according to the World Bank.18 More aggressive efforts to replace petroleum with biofuels could literally starve the hungry, creating chaos and conflict.

Schwartz and Randall warn that abrupt climate change will create millions of environmental refugees fleeing across borders to escape from hunger and water shortages. Millions of illegal migrants already cross the U.S. southern border from Mexico. Poor Mexicans obtain 40 percent of their daily calories from tortillas, and the U.S. ethanol program, by inflating the price of corn, contributed to a “tortilla crisis” in Mexico.19 Burning food in gas tanks exacerbates the poverty that is a root cause of illegal migration. Expect an increase in ‘biofuel refugees’ as the mandates ramp up.

Schwartz and Randall warn that abrupt climate change, by intensifying winter storms and expanding sea ice, could reduce the availability of gas and oil, leading to conflict over dwindling resources. Well, this implies that non-abrupt climate change, which is far more likely, could make gas and oil more available by opening up the long-sought Northwest Passage.20

More importantly, since Kyoto-style policies aim to restrict access to fossil fuels, they too have the potential to engender conflicts over energy. Cap-and-trade programs force participants to compete over slices of a shrinking pie. That is how cap-and-trade is supposed to work. When it doesn’t work that way—as in phase one of the European Emissions Trading System—it is because companies and/or governments are cheating.21

#### NSPS collapses the economy and competitiveness

Bernard L. Weinstein, Ph.D. associate director of the Maguire Energy Institute and an adjunct professor of business economics in the Cox School of Business at Southern Methodist University in Dallas, September 2011, Proposed EPA Power-Sector Air Rules: Weakening Economic Recovery and Putting America’s Most Competitive Manufacturing Industries at Risk, http://pressdocs.cox.smu.edu/maguire/SMU\_Utility\_MACT\_Report.pdf

The causes of America’s economic malaise are many. In the aftermath of 2007’s financial crisis, credit has remained tight, especially for small and medium-sized businesses. With so many people unemployed or underemployed, consumer spending and retail sales are flat. Home prices continue to fall in many parts of the U.S., eating into home equity which for many households is their primary asset. Construction spending remains about 35 percent below its peak a few years ago due mainly to the drop in home building. And with a glut of foreclosure homes and distress sales on the market, home construction is not likely to rebound for several years. Household wealth has been further eroded by the recent drop in the stock market, and many families have chosen to use what resources they have to reduce their debt burdens rather than increase consumer spending.

Perhaps the only bright spot on the economic horizon of late has been a rise in manufacturing output and employment (see Figure 1). Though still below its 2007 peak, production from America’s factories has risen steadily for the past 18 months. In part, this reflects a modest recovery in the U.S. auto industry, but it is also a result of the growing competitiveness of American manufactured goods in the global marketplace. For example, last year U.S. exports of goods rose 21 percent to $1.28 trillion, the sharpest rise since 1988 (see Figure 2), and accounted for more than half of the economy’s growth. This increase enabled the United States to pass Germany and again become the world’s second-largest exporter, behind China. In addition, rising production costs in Asia coupled with a falling U.S. dollar have induced many American manufacturers to repatriate production that had moved abroad in years past.

The best hope for engendering a sustainable economic recovery is maintaining the growth and competitiveness of America’s industrial sector. Unfortunately, a spate of proposed environmental regulations may derail the renaissance in U.S. manufacturing, especially in industries that are energy-intensive.

II. Affordable and Reliable Electric Power: Critical for Viable U.S. Manufacturing

The federal government’s flagship energy efficiency program, EnergyStar, put the matter succinctly: “Manufacturing operations are among the most energy-intrusive in the U.S. . . . Manufacturers produce heat and operate machinery using a variety of energy types ranging from conventional sourced, such as electricity and natural gas, to non-conventional fuels . . . Energy should be managed with the same expertise as other parts of the business.”1

Should any combination of policies serve to increase electricity price, reduce the reliability of energy sources, and also increase natural gas prices, the clear impact on economic growth in the manufacturing sector will be negative. As Dr. Margo Thorning has testified, “Higher energy prices slow economic growth.” In the case of environmental standards that burden or reduce coal capacity and create the basis for fuel shifting to natural gas or other more expensive fuels, the effect can be profound. Dr. Thorning in modeling the effect of carbon legislation—a policy choice similar on impact to energy-intensive industries—found adverse impacts as high as 1.8 million jobs by 2020 and 4.1 million jobs by 2030.2

The manufacturing sector is acutely sensitive to change in energy cost. Even if the particular manufacturer does not fall within the traditional definition of energy-intensive, the extraction of commodity inputs necessary for manufacturing and the supply and distribution after the point of manufacturing are likely to be energy dependent as well, thus making the most efficient of manufacturers nevertheless dependent on affordable and reliable power.

Beyond input and distribution costs, an escalating price for energy also creates a drag on investment confidence in the manufacturing sector. Observing that manufacturers “use large amounts of electricity made from fossil fuels, especially coal,” Professor Hayden Murray of Indiana University found that, “One of the most significant reasons for lack of investor confidence in the economy is the enormous cost of environmental regulation.”3 Sensitivity to energy costs can directly result in displacement of manufacturing jobs. A report from the International Trade Administration (ITA) of the U.S. Department of Commerce found that “the relative sensitivity between the domestic manufacturing sector to the changes in the price of energy intensive inputs such as electricity could create substantial labor displacement in the U.S. economy.”4

The conclusion drawn from the foregoing analyses is clear: the United States cannot create manufacturing jobs of sufficient quantity and quality to recover from the current economic downturn without maintaining a moderate price and affordable supply of energy.

Thorning found:

higher energy prices will make it harder to restart U.S. economic and jobs growth. Each one percent increase in U.S. GDP growth is accompanied by a 0.3 percent increase in energy use. Therefore, the higher the price of energy, the slower the rate of economic recovery.5

The wider effect on the economy at large is clear. As the manufacturing sector is held in check, so too is the economy at large. As IECA noted, “The U.S. cannot grow the economy without using more volume of [industrial] products. The only question is whether the product will be supplied from domestic sources or imports.”6

III. Projected Cost Impact on Manufacturing of Two New EPA Regulations

Many of America’s most globally competitive industries are energy-intensive. Indeed four industries alone—iron and steel, aluminum, paper and pulp, and chemicals—account for nearly half of the energy consumed by U.S. manufacturing industries and more than 10 percent of total U.S. energy production.7 The preferred energy delivery method for these and most other manufacturing industries is electricity.

As indicated in Figure 3, coal accounts for about 45 percent of America’s electric power generation capacity. Though coal’s share of power generation has decreased somewhat over the past decade, coal-fired electricity is the cheapest to produce and has helped maintain America’s competitive advantages in many energy-intensive manufacturing industries. What’s more, coal is an abundant domestic resource.

The U.S. Environmental Protection Agency (EPA) has proposed two new air quality rules that will result in substantial threats to both employment and competitiveness of U.S. manufacturers. The first is the Cross-State Air Pollution Rule (CSAPR) that would cap key emissions that cross state lines, and the second is the Utility Maximum Achievable Control Technology (Utility MACT) Rule that would set absolute limits on mercury and other chemical emissions. As proposed, the Utility MACT would be the most expensive direct rule in EPA history. Indeed, the EPA itself has estimated it would impose costs of about $11 billion a year on the U.S. economy, though third-party estimates of compliance costs are considerably higher.8 For example, a recent analysis by National Economic Research Associates (NERA) finds that complying with the proposed standards would cost power companies close to $18 billion per year for the next twenty years.9

Some coal-fired plants would be so expensive to retrofit that they would simply be shut down. The NERA study projects that about 48 gigawatts of coal generation would be retired over the next five years, representing a 13 percent decline. New natural gas generators would be the most likely substitutes for these shuttered facilities, and the increased demand for gas is estimated by NERA to push up gas prices by about 17 percent by 2016. Higher prices, in turn, would increase natural gas expenditures by the residential, commercial, and industrial sectors of the economy by $85 billion (present value over 2011-2030 in 2010$) or $8.2 billion per year. Average retail electricity prices would jump by about 12 percent with some parts of the country recording increases as high as 24 percent.

In addition to CSAPR and Utility MACT, EPA has promulgated several other rules with compliance deadlines before 2015 that will affect the utility sector. These include greenhouse gases from new and modified sources, air quality standards for sulphur dioxide and nitrous oxide, and new standards for ash and other residuals from coal combustion. Taken together, these regulations will impact about 400,000 megawatts of oil and coal-fired power generation, almost 40 percent of currently available U.S. capacity. Should all of the proposed implementation deadlines remain unchanged, the reliability of the entire U.S. power grid could be compromised.

The utility industry is already laboring to comply with these and a myriad of other EPA mandates. If the agency sticks to its three year compliance timeline, the result could well be a reduction in reserve margins, making less power available during periods of peak demand or plant outages. Imagine what would have happened in Texas and other southern states that rely heavily on coal-fired generation during the record summer heat wave of 2011 if adequate reserve power had not been available? Not only would many energy-intensive industries have been forced to shut down, but rolling blackouts could have put the public’s health at risk in the face of 100 degree plus temperatures week after week.

This prospect was highlighted in a recent statement by the Electric Reliability Council of Texas, which operates the state grid, to the effect that likely production cuts in 2012 to comply with the CSAPR rules would “threaten the state’s ability to keep the lights on.”10 American Electric Power Company has stated it will retire nearly 6,000 megawatts (MW) of generating capacity in response to the CSAPR rules while Duke Energy will shutter 862 MW and Georgia Power another 871 MW.11

At the same time, by substituting higher-cost electricity (natural gas) for lower-cost electricity (coal), the cost of energy for consumers will invariably rise. Additionally, as a recent report by Bloomberg New Energy Finance has noted, consumers are also likely to bear the increased cost of capacity payments (the cost for utilities to go into the wholesale market and purchase actually available energy) which Bloomberg estimates will also rise rapidly by 2015 as “intermittent resources like wind and solar force [Independent System Operators] to pay to keep gas-peaking plants online even though they’re not used enough to be profitable based on electricity sales.”12 These increased energy costs mean that many energy-intensive industries would see their overall production costs rise while their competitive advantages in the global marketplace decline. At risk are not only tens of thousands of high-paying jobs but a worsening of America’s balance of trade.

There can be little doubt that the suite of rules contemplated by EPA—imposed as they are on U.S. manufacturing interests and not on their foreign competitors—are likely to have profound adverse economic consequences for energy-intensive manufacturing. The consensus of economic literature regarding carbon caps is instructive. McMackin (2009) observed that because, “Energy costs are a substantial portion of these producers’ manufacturing cost,” it is likely that, “production of energy intensive goods may well shift to unregulated countries.”13 The Yudkin/High-Road Strategies report also found that unequal imposition of regulatory burden can send energy-intensive manufacturers overseas. They wrote, “If nothing is done to help these companies, many of them will close or move overseas.”14 ACEEE (2011) describes a “prevalent concern” among energy-intensive manufacturers that environmental standards applied on a national basis “will increase energy costs and potentially compromise the global competitiveness of these energy-intensive and trade-exposed industries.”15 The Nicholas Institute at Duke University (2009) likewise noted that regulations “might provide a comparative advantage” to other less regulated countries, “leading to loss of competitive advantage” and a potential “migration of manufacturing” overseas.16 ITA (2010) speaks to “potential domestic effects and international trade shifts that could be affected by changing energy costs. . . higher energy input costs may cause U.S. production to shift to countries that have not matched” regulation in the United States.17

IV. The Importance of Energy-Intensive Manufacturing to the U.S. Economy

Though manufacturing employment has declined markedly over the past half-century, the industrial sector still accounts for 12 percent of gross domestic product (GDP) and millions of high-wage jobs. It is also the sector that has posted the sharpest productivity gains over the past 40 years. For example, real output per worker in manufacturing was $60,000 in 1970, but by 2010, real output per worker had jumped to $150,000 (see Figure 4).

What’s more, manufacturers typically have strong backward and forward linkages with other sectors of the economy. According to the IMPLAN input-out model, most manufacturing industries reveal very high employment “multipliers,” meaning that one job in manufacturing may support many other jobs across the economy.18

The employment multipliers for “energy-intensive” manufacturers are especially high. For example, a multi-billion dollar refinery or petrochemical plant may only employ several hundred workers on site. However, the inputs to the manufacturing process, along with transportation, distribution and sale of refined products, generate substantial upstream and downstream employment. Indeed, according to IMPLAN, the jobs multiplier for petroleum refineries is 36.3, the highest of any industry in the country. For iron and steel, the multiplier is 12.3 and for pulp and paper it’s 9.7.

The most recent U.S. Census of Manufacturers found that the 10 most energy-intensive manufacturing industries employed almost 1.2 million workers across the U.S.A. (see Table 1). Using a conservative employment multiplier of eight, we can say these 10 industries are supporting at least 9.6 million additional workers across the economy. What this suggests, of course, is that when energy-intensive manufacturing is expanding, the spillover benefits to the rest of the economy are huge.

However, employment multipliers work in both directions. Should America’s manufacturers, and in particular our energy-intensive industries, be forced to reduce capacity and lay off workers in response to externally-imposed energy cost increases such as those that would inevitably attend the rapid implementation of CSAPR and MACT, job losses would be recorded in many other industries as well. Put differently, for every job lost in an energy- intensive manufacturing industry, many more jobs will disappear across the economy.

A study prepared a decade ago on the manufacturing job losses associated with the 1970 and 1977 Clean Air Act Amendments found that in the first 15 years after the Amendments became law (1972-1987), nonattainment counties lost approximately 590,000 jobs, $37 billion in capital stock, and $75 billion (1987$) of production activity.19 And these were just the “direct” losses. Based on a multiplier of eight, up to 4.7 million additional jobs may have been destroyed across the U.S. as a consequence of the 1970 and 1977 Amendments.

The likely job losses from implementation of CSAPR and Utility MACT as proposed would also be significant. While it is not possible to know exactly what job loss or plant closures may result from loss of comparative energy advantage to manufacturing, these estimates derive from BEA employment data, an average multiplier resulting from the IMPLAN input-output model and historical studies like ITA which indicate the potential for “substantial labor displacement” in the event of pricing changes to energy-intensive inputs. Should implementation of the rules result in a 10 percent reduction of employment in America’s 10 most energy-intensive industries listed above, 117,300 on site jobs would disappear. However if we use a conservative employment multiplier of eight, those direct losses would translate into more than one million total job losses across the nation over the next decade.20 And these estimates do not include potential job losses among less energy-intensive manufacturing industries, the coal industry, and electric utilities.21

V. Small Businesses and Consumers Affected by CSAPR and Utility MACT

As mentioned above, the recent NERA study projects higher retail electric prices between 12 and 24 percent by 2016 under the proposed implementation of CSAPR and MACT. Unlike large companies, small businesses and individual households don’t have the market power to negotiate lower rates with utility companies and therefore have to pay full retail for the power they consume. For example, an analysis by the Illinois Power Agency concludes “each power generator will have to decide whether the investment required to meet environmental regulations can be justified based on its projection of market prices and the cost of capital. In any case, those costs will be passed through to consumers.”22

At a time when the economy may be poised for a double-dip recession, with thousands of small businesses and millions of households struggling to pay their bills, higher electricity costs will surely diminish the pace of hiring by small businesses while further eroding the discretionary income of American households. Despite this, based on the analysis it has placed in the regulatory docket, it is entirely unclear whether and to what extent EPA even analyzed and considered the impact of Utility MACT on small businesses—an analysis required of rulemaking agencies under the Regulatory Flexibility Act. As the Small Business Association’s Office of Advocacy noted in its comments on the proposed rule, “EPA has not presented evidence that it has seriously considered the impact this rule will have on small entities or available regulatory alternatives that would minimize that impact . . . EPA has . . . proposed a rule that imposes greater costs on small entities than is necessary under the Clean Air Act.” This prospect does not bode well for an early economic rebound.

VI. A Sensible and Reasonable Path Toward Improved Air Quality

In short, EPA’s CSAPR and Utility MACT rules, when combined with a plethora of other proposed and planned regulations, will retard the prospects for America’s economic recovery and will result in significantly higher costs for America’s slowly recovering manufacturing industries, especially those that require large amounts of energy in their production processes.

Growth in our manufacturing sector, with its strong export orientation, offers the best hope for a sustainable economic recovery. With unemployment stuck at more than nine percent and many Americans too discouraged to even look for a job, it makes little sense to erode the global competitive advantages of our most productive industries. At the same time, the aggressive nature of EPA’s proposals will raise the costs of providing electricity at both the wholesale and retails levels putting additional rate burdens on businesses and households during a time of serious economic stress.

#### Studies prove energy costs are key

Margo Thorning, Ph.D., Senior Vice President and Chief Economist American Council for Capital Formation, 2/9/11, The Impact of EPA Regulation of GHGs under the Clean Air Act on U.S. Investment and Job Growth, http://accf.org/wp-content/uploads/2011/02/House-Energy-Commerce-Testimony-292011-FINAL.pdf

While it is true that a certain number of jobs may be created in some industries that build the energy efficient equipment mandated by regulators, overall, however, the evidence suggests that the total impact on U.S. net job growth will be negative. The main effect of EPA mandating BACT for GHG reduction under the CAA will be to make energy more expensive and to increase production costs (relative to a baseline forecast). Substituting more expensive energy and higher production costs for cheaper energy and lower production costs causes a slow down in productivity growth and economic activity. Historically, each one percent increase in U.S. GDP growth is accompanied by a 0.2 percent increase in energy use; therefore, the higher the price of energy, the slower the rate of economic recovery. As costs rise in energy intensive industries, output tends to fall, there are fewer new jobs created because the total economic “pie” grows more slowly, relative to a baseline forecast.

The initial adverse impact on job growth may be due to delays in getting PSD and Title V permits (which means delays in starting construction). However, in the longer term, the reason that overall job growth is likely to be slower when EPA begins to mandate BACT for GHG reductions is that companies will have to try to pass on the higher costs of the new BACT requirements to their customers and also pass back the additional costs to workers and shareholders in the form of lower wages and smaller returns on equity investments.

The economic impact of EPA regulation of GHG emissions of stationary sources is likely to be more severe than if a market-based approach were employed. Therefore, analyses like the one performed on the Kerry/Lieberman bill can be used to benchmark the harm from EPA’s Clean Air Act GHG program. The results of the ACCF/SBEC macroeconomic analyses on the Kerry/Lieberman bill show that higher energy prices and more costly production methods will make it harder to keep the U.S. economic recovery going and to reduce the unemployment rate (see study at: http://www.accf.org/publications/137/accf-sbe-council-study-on-kerry-lieberman-bill).

Other results of rising costs driven by EPA’s GHG regulations are loses in investment in U.S. production and losses of domestic and export market share by U.S. firms. One of the factors that causes businesses to locate new investment abroad is policies or market-driven events that raise energy costs or other costs of production. This, in turn, leads to a shift in the share of global production from domestic producers to firms located oversees. As a result, “leakage” of both jobs and GHG emissions occurs. Where the “leakage’ is to countries with lax environmental controls and more energy-intensive production methods, the result is a net increase in global GHG emissions. In addition, under EPA’s GHG permitting requirements, there will be no “border tax adjustments” as there are in recent U.S. cap and trade bills to help energy intensive industries adjust to higher production and energy costs.

U.S key to the global economy

**Caploe 9** (David Caploe is CEO of the Singapore-incorporated American Centre for Applied Liberal Arts and Humanities in Asia., “Focus still on America to lead global recovery”, April 7, The Strait Times, lexis)

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

#### Extinction

Kemp 10

Geoffrey Kemp, Director of Regional Strategic Programs at The Nixon Center, served in the White House under Ronald Reagan, special assistant to the president for national security affairs and senior director for Near East and South Asian affairs on the National Security Council Staff, Former Director, Middle East Arms Control Project at the Carnegie Endowment for International Peace, 2010, The East Moves West: India, China, and Asia’s Growing Presence in the Middle East, p. 233-4

The second scenario, called Mayhem and Chaos, is the opposite of the first scenario; everything that can go wrong does go wrong. The world economic situation weakens rather than strengthens, and India, China, and Japan suffer a major reduction in their growth rates, further weakening the global economy. As a result, energy demand falls and the price of fossil fuels plummets, leading to a financial crisis for the energy-producing states, which are forced to cut back dramatically on expansion programs and social welfare. That in turn leads to political unrest: and nurtures different radical groups, including, but not limited to, Islamic extremists. The internal stability of some countries is challenged, and there are more “failed states.” Most serious is the collapse of the democratic government in Pakistan and its takeover by Muslim extremists, who then take possession of a large number of nuclear weapons. The danger of war between India and Pakistan increases significantly. Iran, always worried about an extremist Pakistan, expands and weaponizes its nuclear program. That further enhances nuclear proliferation in the Middle East, with Saudi Arabia, Turkey, and Egypt joining Israel and Iran as nuclear states. Under these circumstances, the potential for nuclear terrorism increases, and the possibility of a nuclear terrorist attack in either the Western world or in the oil-producing states may lead to a further devastating collapse of the world economic market, with a tsunami-like impact on stability. In this scenario, major disruptions can be expected, with dire consequences for two-thirds of the planet’s population.

#### Competitiveness decline triggers great power wars

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

The management of the economy, and of the treasury, has been a vital aspect of statecraft from time immemorial. Kautilya’s Arthashastra says, ‘From the strength of the treasury the army is born. …men without wealth do not attain their objectives even after hundreds of trials… Only through wealth can material gains be acquired, as elephants (wild) can be captured only by elephants (tamed)… A state with depleted resources, even if acquired, becomes only a liability.’4 Hence, economic policies and performance do have strategic consequences.5 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.’6 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.’7

#### Our theory of economics is true

Edward Alden 2-4, senior fellow at CFR, “Why Manufacturing Really Matters: Gary Pisano and Willy Shih on Innovation”, http://blogs.cfr.org/renewing-america/2013/02/04/why-manufacturing-really-matters-gary-pisano-and-willy-shih-on-innovation/

If there is any consensus in the debate over how to revitalize the American economy, it is over innovation. Innovation, we can all readily concur, is the only way for an advanced economy like the United States – which cannot grow by copying and imitating others – to continue to boost productivity and raise living standards. But understanding why useful innovations occur, and what if anything governments can do to foster them, quickly degenerates into a clash between free market absolutists and industrial policy aficionados.

In their book Producing Prosperity: Why America Needs a Manufacturing Renaissance, Harvard Business School professors Gary Pisano and Willy Shih cut through the confusion. In just 138 pages – a perfect read for the Washington to New York Acela – they offer the most compelling case I have read for why making things matters, even if it will produce very few manufacturing jobs in the future. Pisano is an economist with particular expertise in the biotechnology industry, and Shih is a professor of management practice who spent a career in senior executive positions at IBM, Digital Equipment, Silicon Graphics, and Kodak. I had the pleasure of hosting both at a roundtable meeting at the Council on Foreign Relations in New York on February 1. (We had scheduled the meeting for several months ago but our plans were blown away by Hurricane Sandy.)

They demolish the comforting story that many economists have offered to dismiss concerns over the shrinking role of manufacturing in the U.S. economy. The conventional argument goes like this: it makes more economic sense to locate the actual production of goods in lower-wage countries, while the United States maintains the skilled parts of the supply chain – R&D, branding, marketing, etc. The classic example here is Apple: most of the value of an iPhone or iPad comes from the design, software, branding and retailing, not from the assembly. Therefore, U.S.-headquartered Apple can become the most valuable company in the world even while making virtually nothing in the United States.

But it turns out this model is not very replicable (and may not even work very well for Apple in the longer run). The reason is that new technological innovations often come from what is learned in the manufacturing and development of earlier technologies. It is not enough to have a good idea: Bell Labs invented the photovoltaic (PV) cell, but production has been almost entirely in Asia, where all the key component suppliers are located and the manufacturing knowledge now largely resides.

The loss of manufacturing production can have lasting knock-on effects. Willy Shih, who led the consumer digital business for Kodak in the late 1990s, tells the story of how Kodak missed the digital camera revolution. It was not through ignorance – in fact the company had long been working on digital technologies and produced one of the first consumer digital cameras, in 1994. But Kodak had largely exited the camera business in the 1960s, deciding (quite logically at the time) that the real profits were in film. The camera business moved offshore to Japan. As a result, when Kodak decided to begin making digital cameras in the United States, there was no supplier network; all the critical components were being made in Japan. In 1998, Kodak shut down its digital assembly line in Rochester and moved it to Japan to be closer to suppliers.

One of the compelling things about their analysis is that they do not argue that it always, or even mostly, makes sense for U.S. companies to manufacture in the United States. Only in certain sorts of industries is it critical that research and manufacturing be kept in close proximity. For mature technologies with established production processes – such as desktop computers, consumer electronics, commodity semiconductors – outsourcing is a sensible business strategy. But where production processes are rapidly evolving – advanced semiconductors, biotech drugs, and nanomaterials to name just a few – the loss of production can quickly lead to the loss of any innovative edge. And over time the research capabilities will follow production. Applied Materials, for example, moved its chief technical officer to Asia in 2010 because it made more sense to locate research capabilities closer to the company’s largest customers in China, Taiwan, and South Korea.

Nor do Pisano and Shih promise that manufacturing will again become a big jobs engine for the United States. Companies that are investing in U.S. manufacturing are also investing heavily in automation. Manufacturing will still produce some good jobs, but the compelling reason to retain and attract manufacturing is not for employment, but to retain the production know-how and supplier networks that are the key to future innovation – which will in turn spin off new job opportunities.

#### Coal’s key to cloud computing

PennEnergy, 4/23/12, Cloud computing relying on coal-fired generation, www.pennenergy.com/articles/pennenergy/2012/04/cloud-computing-relying.html

A recent report released by environmental group Greenpeace highlighted that many of the country's largest internet companies, some of those responsible for the emerging shift toward cloud computing, are increasingly relying on coal-fired generation.

Cloud computing has been a growing field in the U.S., both for commercial use and for private consumption, requiring a dramatic increase in energy usage as more and more data centers spring up around the country.

The industry has traditionally been tied to Silicon Valley, the center of the initial digital revolution, where coal-fired power plants play a limited role in power generation. As the industry has grown, however, many companies have moved their data centers steadily eastward where they can be closer to ultimate end users and electricity prices are sometimes lower.

Although the percentage of power coming from coal-fired generation has steadily declined in the East Coast, it still accounts for a substantial proportion. It is important to note that beyond location, technology companies have only marginal control over the source of electricity powering their data centers, which is generally managed on a state level .

#### That’s key to sustain the internet

Mark Mills, senior fellow of the Manhattan Institute, 5/31/11, Opportunity In The Internet's Voracious Energy Appetite: The Cloud Begins with Coal (and fracking), www.forbes.com/sites/markpmills/2011/05/31/opportunity-in-the-internets-voracious-energy-appetite-the-cloud-begins-with-coal-and-fracking/

High-tech products require an astounding 1,000 times more energy per kilogram to manufacture than the materials that dominated the 19th and 20th centuries. Few things are as energy-intensive to produce as the miraculous silicon graphics-processing units and memory chips which are the building blocks of the 21st century ubiquitous video paradigm. It takes a couple of kilowatt-hours to make a tiny square centimeter of silicon device that weighs about four-one-thousandth of a pound. You can make several pounds of steel with that much electricity. And we manufacture silicon devices countable in square miles each year.

Overall, it takes roughly 35 times more energy just to make a pound of smart phone or notebook PC, as it does to make a pound of book. And we keep books, at least those of us that still buy books, for years, even centuries. It takes on the order of 20 times more energy to make the network video hardware (allocated pro-rata) than to manufacture a plastic DVD. Everything takes energy to build. But unlike cars and a lot of other goods which see service for a decade or more, most digital hardware has a useful life averaging three years. So when annualizing energy costs of digital device manufacturing, you amortize over a short time.

And the grand total, the “net net” for the Cloud’s appetite when you count all four aspects of energy associated with digital hardware? Well, certainly much more than the oft-cited fact that ‘only’ two percent of U.S. electricity is used by data centers, since that counts, well, just data centers. Account for the other three factors around and in the Cloud and the total appetite is north of 10 percent of national electricity use. So the U.S. digital economy uses roughly as much electricity the entire country of England, likely more.

For some, this may seem like an environmental problem. For many, it is more of an operational challenge in achieving yet more growth with minimal fiscal, not just environmental, energy-related costs. In a now ten-year-old pioneering study, The Internet Begins With Coal, and a related co-authored Forbes article (Dig More Coal: The PCs Are Coming) I set off a firestorm of environmental protest (and frankly, some puerile commentary). The main problem with past and many current protestations about estimating the digital economy’s energy appetite lies in a myopic focus on data centers, and failure to consider all aspects of the digital infrastructure.

As for the future, doubtless we’ll continue to hear what we’ve heard for years. Technology will make digital stuff more efficient so the energy ‘problem’ will be ameliorated if not conquered. We’ve seen this play before. Radical efficiency gains have occurred; but these efficiency gains are precisely what created, and creates more overall demand. And more efficiency gains are coming.

Intel [NASDAQ: INTC] has announced it will cut energy appetite of microprocessors almost three-fold. Data storage is practically free and getting cheaper in both energy and dollar terms per byte – consider what it costs for a 10 GB memory stick today compared to a few years ago, or terabytes of back-up at Carbonite. Overall data center efficiency has also soared in recent years as “virtualization” algorithms have radically improved the utilization of the thousands of servers under roof.

The technical literature is filled with ideas, designs and materials in power electronics and software with potential to increase energy efficiency in cell towers, data centers and handhelds, some by as much as 30 to 50 percent. A similar trend characterized the emergence of the auto age.

Car engine energy efficiency improved 500 percent pound-for-pound from early years to the late 20th century. Greater efficiency made it possible to make better, more featured, safer, usually heavier and more affordable cars. So rising ownership and utilization lead to 400 percent growth in transportation fuel use since WWII. The flattening of automotive energy growth in the West is a recent phenomenon as we finally see near saturation levels in road-trips per year and cars-per-household. We are a long way from saturation on video ‘trips’ on the information highways.

Efficiency gains are precisely what creates and increases overall traffic and energy demand; more so for data than other service or products. From 1950 to 2010, the energy efficiency of information processing improved ten trillion-fold in terms of computations per kWh. So a whole lot more data-like machines got built and used — consequently the total amount of electricity consumed to perform computations increased over 100-fold since the 1950s – if you count just data centers. Count everything we’re talking about here and the energy growth is beyond 300-fold.

Fundamentally, if it were not for more energy-efficient logic processing, storage and transport, there would be no Google or iPhone. At the efficiency of early computing, just one Google data center would consume more electricity than Manhattan. Efficiency was the driving force behind the growth of Internet 1.0 as it will be for the wireless video-centric Internet 2.0. In energy terms, video traffic is the equivalent of migrating all car drivers from Civics to Tahoes. So power use and hardware to produce and manage it will get dragged along for the ride.

Who is playing in these energy fields? Not surprisingly, all the data guys themselves, from Google, as noted, to Microsoft [NASDAQ: MSFT], HP [NYSE: HPQ], Cisco [NASDAQ: CSCO], IBM [NYSE: IBM], Juniper [NYSE: JNPR], Intel – all of them.

Running below the typical excitement radar is a constellation of traditional old-world electric-equipment companies, both large and small, who make all the power electronics components, devices and services that are now the ascendant and often primary costs across the data domain, especially in data centers, commercial enterprises, and manufacturing plants. Familiar names like GE [NYSE: GE], Eaton [NYSE:ETN], Emerson [NYSE: EMR], Siemens [NYSE: SI], ABB [NYSE: ABB], Honeywell [NYSE: HON], Johnson Controls [NYSE: JCI], and Schneider [FR: SU-FR]. Check any of their web sites and you’ll see lots of chest-thumping about powering the digital economy.

There is a grand convergence going on between the old economy’s electrical infrastructure, and the new economy’s digital infrastructure. There is, as well, a symmetrical convergence taking place over in the utility sector’s smart grid – a story for another episode.

Drill down a layer deeper in the ecosystem of engineering players and you find less well-known and often smaller players – in America still, sometimes today’s small is tomorrow’s giant — and a vast landscape of public and private companies, to name a very few to illustrate the diversity; Celestica [NYSE: CLS], , Quest, Intergy and Raritan. Add to the list of emerging players many start-ups and small companies like Power Analytics which (where, full disclosure, I am a board member and we are investors) has pioneered enterprise-level software to visualize and predict the complexities of data center power to marry the oppositional forces of reliability and efficiency.

Drill down further into the basic component layer and we find lots of device and component companies. Of particular interest are those developing next-generation power semiconductors – notably those using silicon carbide, and gallium nitride rather than silicon – which will enable smart power networks the way microprocessors enabled smart communications networks. Our old friends at Cree [NASDAQ: CREE], better known for making LEDs, are one of the power-semi leaders with recent silicon-carbide device releases.

Another bubble brewing on the energy-tech front? You bet. But anchored in the reality of the physics of information, not perceptions of consumer proclivities. Certainly the growth of Facebook, Twitter, LinkedIn, Netlix, and Vevo, and many similar emerging is the face of growth and even froth. You may have trouble knowing where to place bets on the downstream domain, but **the winners upstream are easier to bet on because all Internet companies require underlying infrastructure**.

No surprise then that the pace of data center construction is picking up, from Microsoft’s new 10-football-field-sized Quincy, Washington data center, to Equinix’s recent announcement to build its eighth data center in New York.

One recent survey found up to one-half of data centers need to expand over the next two years, with over two-thirds of data centers expecting to run out of power before the end of next year. The same survey found virtualization has pretty much wrung-out the maximum from installed hardware. Virtualization has been the biggest single energy relief valve, and it’s largely over. Another survey found that 95 percent of data centers experienced at least one unplanned outage over the past couple of years – power was the central issue two-thirds of the time– with an average cost of over $0.5 million per outage. The energy issue has moved to front-and-center.

Hans Thirring in his 1958 book, Energy For Man, was probably the first person to consider and calculate the total energy cost of information and communications. (A citation to his work appears probably for the first time in nearly 50 years in the book I co-authored, The Bottomless Well.) Thirring was prescient. Only now is the technical community starting to give this issue its just due. Maybe the investment community will follow.

Meanwhile, the coming wireless broadband explosion promises to create a vortex of electricity demand. Lots of companies will prosper bringing new technologies and innovations to the digital energy ecosystem.

Some see the energy appetite of the Cloud as a problem. Others amongst us see it as evidence of a new global tech boom that echoes the arrival of the automotive age. We’re back to the future, where the microprocessor today as an engine of growth may not be new, anymore than the internal combustion engine was new in 1958. It’s just that, once more, all the components, features and forces are aligned for enormous growth. With that growth we will find at the bottom of this particular digital well, the need to dig more coal, frack more shale….

#### Extinction

Eagleman 10

[David Eagleman is a neuroscientist at Baylor College of Medicine, where he directs the Laboratory for Perception and Action and the Initiative on Neuroscience and Law and author of Sum (Canongate). Nov. 9, 2010, “ Six ways the internet will save civilization,”
 http://www.wired.co.uk/magazine/archive/2010/12/start/apocalypse-no]

Many great civilisations have fallen, leaving nothing but cracked ruins and scattered genetics. Usually this results from: natural disasters, resource depletion, economic meltdown, disease, poor information flow and corruption. But we’re luckier than our predecessors because we command a technology that no one else possessed: a rapid communication network that finds its highest expression in the internet. I propose that there are six ways in which the net has vastly reduced the threat of societal collapse. Epidemics can be deflected by telepresence One of our more dire prospects for collapse is an infectious-disease epidemic. Viral and bacterial epidemics precipitated the fall of the Golden Age of Athens, the Roman Empire and most of the empires of the Native Americans. The internet can be our key to survival because the ability to work telepresently can inhibit microbial transmission by reducing human-to-human contact. In the face of an otherwise devastating epidemic, businesses can keep supply chains running with the maximum number of employees working from home. This can reduce host density below the tipping point required for an epidemic. If we are well prepared when an epidemic arrives, we can fluidly shift into a self-quarantined society in which microbes fail due to host scarcity. Whatever the social ills of isolation, they are worse for the microbes than for us. The internet will predict natural disasters We are witnessing the downfall of slow central control in the media: news stories are increasingly becoming user-generated nets of up-to-the-minute information. During the recent California wildfires, locals went to the TV stations to learn whether their neighbourhoods were in danger. But the news stations appeared most concerned with the fate of celebrity mansions, so Californians changed their tack: they uploaded geotagged mobile-phone pictures, updated Facebook statuses and tweeted. The balance tipped: the internet carried news about the fire more quickly and accurately than any news station could. In this grass-roots, decentralised scheme, there were embedded reporters on every block, and the news shockwave kept ahead of the fire. This head start could provide the extra hours that save us. If the Pompeiians had had the internet in 79AD, they could have easily marched 10km to safety, well ahead of the pyroclastic flow from Mount Vesuvius. If the Indian Ocean had the Pacific’s networked tsunami-warning system, South-East Asia would look quite different today. Discoveries are retained and shared Historically, critical information has required constant rediscovery. Collections of learning -- from the library at Alexandria to the entire Minoan civilisation -- have fallen to the bonfires of invaders or the wrecking ball of natural disaster. Knowledge is hard won but easily lost. And information that survives often does not spread. Consider smallpox inoculation: this was under way in India, China and Africa centuries before it made its way to Europe. By the time the idea reached North America, native civilisations who needed it had already collapsed. The net solved the problem. New discoveries catch on immediately; information spreads widely. In this way, societies can optimally ratchet up, using the latest bricks of knowledge in their fortification against risk. Tyranny is mitigated Censorship of ideas was a familiar spectre in the last century, with state-approved news outlets ruling the press, airwaves and copying machines in the USSR, Romania, Cuba, China, Iraq and elsewhere. In many cases, such as Lysenko’s agricultural despotism in the USSR, it directly contributed to the collapse of the nation. Historically, a more successful strategy has been to confront free speech with free speech -- and the internet allows this in a natural way. It democratises the flow of information by offering access to the newspapers of the world, the photographers of every nation, the bloggers of every political stripe. Some posts are full of doctoring and dishonesty whereas others strive for independence and impartiality -- but all are available to us to sift through. Given the attempts by some governments to build firewalls, it’s clear that this benefit of the net requires constant vigilance. Human capital is vastly increased Crowdsourcing brings people together to solve problems. Yet far fewer than one per cent of the world’s population is involved. We need expand human capital. Most of the world not have access to the education afforded a small minority. For every Albert Einstein, Yo-Yo Ma or Barack Obama who has educational opportunities, uncountable others do not. This squandering of talent translates into reduced economic output and a smaller pool of problem solvers. The net opens the gates education to anyone with a computer. A motivated teen anywhere on the planet can walk through the world’s knowledge -- from the webs of Wikipedia to the curriculum of MIT’s OpenCourseWare. The new human capital will serve us well when we confront existential threats we’ve never imagined before. Energy expenditure is reduced Societal collapse can often be understood in terms of an energy budget: when energy spend outweighs energy return, collapse ensues. This has taken the form of deforestation or soil erosion; currently, the worry involves fossil-fuel depletion. The internet addresses the energy problem with a natural ease. Consider the massive energy savings inherent in the shift from paper to electrons -- as seen in the transition from the post to email. Ecommerce reduces the need to drive long distances to purchase products. Delivery trucks are more eco-friendly than individuals driving around, not least because of tight packaging and optimisation algorithms for driving routes. Of course, there are energy costs to the banks of computers that underpin the internet -- but these costs are less than the wood, coal and oil that would be expended for the same quantity of information flow. The tangle of events that triggers societal collapse can be complex, and there are several threats the net does not address. But vast, networked communication can be an antidote to several of the most deadly diseases threatening civilisation. The next time your coworker laments internet addiction, the banality of tweeting or the decline of face-to-face conversation, you may want to suggest that the net may just be the technology that saves us.

## adv 2

#### US courts should strike down the coal NSPS rule—precedent key to prevent fossil fuel regulatory death and EPA carbon caps

Marlo Lewis, Competitive Enterprise Institute, Energy and Environmental Policy Senior Fellow, 11/14/12, Why You Should Care That Courts Overturn EPA's Carbon Pollution Standard, www.forbes.com/sites/realspin/2012/11/14/why-you-should-care-that-courts-overturn-epas-carbon-pollution-standard/print/

The 2012 elections ensure that President Obama’s “war on coal” will continue for at least two more years. The administration’s preferred M.O. has been for the EPA to “enact” anti-coal policies that Congress would reject if such measures were introduced as legislation and put to a vote. Had Gov. Romney won the presidential race and the GOP gained control of the Senate, affordable energy advocates could now go on offense and pursue a legislative strategy to roll back various EPA global warming regulations, air pollution regulations, and restrictions on mountaintop mining. But Romney lost and Democrats gained two Senate seats.

Consequently, defenders of free-market energy are stuck playing defense and their main weapon now is litigation. This is a hard slog because courts usually defer to agency interpretations of the statutes they administer. But sometimes petitioners win. In August, the U.S. Court of Appeals struck down the EPA’s Cross State Air Pollution Rule (CSAPR), a regulation chiefly targeting coal-fired power plants. The Court found that the CSAPR exceeded the agency’s statutory authority. Similarly, in March, the Court ruled that the EPA exceeded its authority when it revoked a Clean Water Act permit for Arch Coal’s Spruce Mine No. 1 in Logan Country, West Virginia.

A key litigation target in 2013 is EPA’s proposal to establish greenhouse gas (GHG) “new source performance standards” (NSPS) for power plants. This so-called carbon pollution standard is not based on policy-neutral health or scientific criteria. Rather, the EPA contrived the standard so that commercially-viable coal plants cannot meet it. The rule effectively bans investment in new coal generation.

We Can Win This One

Prospects for overturning the rule are good for three main reasons.

(1) Banning new coal electric generation is a policy Congress has not authorized and would reject if proposed in legislation and put to a vote. Once again the EPA is acting beyond its authority.

The proposed “carbon pollution” standard requires new fossil-fuel electric generating units (EGUs) to emit no more than 1,000 lbs of carbon dioxide (CO2) per megawatt hour (MWh). About 95% of all natural gas combined cycle power plants already meet the standard, according to the EPA. No existing coal power plants come close; even the most efficient, on average, emit 1,800 lbs CO2/MWh.

A coal power plant equipped with carbon capture and storage (CCS) technology could meet the standard, but the levelized cost of new coal plants already exceeds that of new natural gas combined cycle plants, and “today’s CCS technologies would add around 80% to the cost of electricity for a new pulverized coal (PC) plant, and around 35% to the cost of electricity for a new advanced gasification-based (IGCC) plant,” the EPA acknowledges.

In short, the EPA has proposed a standard no economical coal plant can meet. Not surprising given President Obama’s longstanding ambition to “bankrupt” anyone who builds a new coal power plant and his vow to find other ways of “skinning the cat” after the 2010 election-day “slaughter” of 29 cap-and-trade Democrats. But the big picture is hard to miss: Congress never signed off on this policy.

The only time Congress even considered imposing GHG performance standards on power plants was during the debate on the Waxman-Markey cap-and-trade bill. Section 216 of Waxman-Markey would have established NSPS requiring new coal power plants to reduce CO2 emissions by 50% during 2009-2020 and by 65% after 2020 – roughly what the EPA is now proposing. Although Waxman-Markey narrowly passed in the House, it became so unpopular as “cap-and-tax” that Senate leaders pulled the plug on companion legislation.

Team Obama is attempting to accomplish through the regulatory backdoor what it could not achieve through the legislative front door. The “carbon pollution” rule is an affront to the separation of powers.

(2) The “carbon pollution” standard is regulation by misdirection – an underhanded ‘bait-and-fuel-switch.’

In Massachusetts v. EPA (April 2007), the Supreme Court held that GHGs are “air pollutants” for regulatory purposes. This spawned years of speculation about whether the EPA would define “best available control technology” (BACT) standards for “major” GHG emitters so stringently that utilities could not obtain pre-construction permits unless they built natural gas power plants instead of new coal power plants.

In March 2011, the EPA published a guidance document assuring stakeholders that BACT for CO2 would not require a permit applicant “to switch to a primary fuel type” different from the fuel type the applicant planned to use for its primary combustion process. The agency specifically disavowed plans to “redefine the source [category]” such that coal boilers are held to the same standard as gas turbines.

The EPA reiterated this assurance in a Q&A document accompanying the guidance. One question asks: “Does this guidance say that fuel switching (coal to natural gas) should be selected as BACT for a power plant?” The EPA gives a one-word response: “No.”

This bears directly on the legal propriety of the “carbon pollution” standard. In general, NSPS are less stringent than BACT. NSPS provide the “floor” or minimum emission control standard for determining an emitter’s BACT requirements. BACT is intended to push individual sources to make deeper emission cuts than the category-wide NSPS requires.

Yet despite the EPA’s assurance that BACT, although tougher than NSPS, would not require fuel switching or redefine coal power plants into the same source category as natural gas power plants, the “carbon pollution” rule does exactly that.

In April 2011, the House passed H.R. 910, the Energy Tax Prevention Act, sponsored by Rep. Fred Upton (R-Mich.), by a vote of 255-172. H.R. 910 would overturn all of the EPA’s GHG regulations except for those the auto and trucking industries had already made investments to comply with. Sen. James Inhofe’s companion bill (S. 482) failed by one vote. In June 2010, Sen. Lisa Murkowski’s (R-Alaska) Congressional Review Act resolution to strip the agency of its Mass v. EPA-awarded power to regulate GHGs failed by four votes. One or both of those measures might have passed had the EPA come clean about its agenda and stated in 2009 it would eventually propose GHG performance standards no affordable coal power plant can meet.

(3) The “carbon pollution” standard is weirdly contorted, flouting basic standards of reasonableness and candor.

Under the Clean Air Act, an emission performance standard is supposed to reflect “the degree of emission limitation achievable through the application of best system of emission reduction” that has been “adequately demonstrated.” The EPA picked 1,000 lbs CO2/MWh as the NSPS for new fossil-fuel EGUs because that is the “degree of emission limitation achievable through natural gas combined cycle generation.”

But natural gas combined cycle is not a system of emission reduction. It is a type of power plant. The EPA is saying with a straight face that natural gas combined cycle is an emission reduction system that has been adequately demonstrated for coal power plants. By that ‘logic,’ zero-carbon nuclear-, hydro-, wind-, or solar-electric generation is an emission reduction system that has been adequately demonstrated for natural gas combined cycle.

A coal power plant could meet the standard by installing CCS, but, as the EPA acknowledges, CCS is too costly to qualify as “adequately demonstrated.” The only practical way for utilities to comply is to build new gas turbines instead of new coal boilers. This is the first time the EPA has defined a performance standard such that one type of facility can comply only by being something other than what it is.

The EPA sets performance standards for specific categories of industrial sources. A coal boiler is different from a gas turbine, and up to now the agency reasonably regulated them as different source categories, under different parts of the Code of Federal Regulations – Subpart Da for coal boilers, Subpart KKKK for gas turbines. The EPA now proposes to regulate coal boilers and gas turbines as a single source category — “fossil-fuel EGUs” — under a new subpart numbered TTTT. But only for CO2! Coal boilers and gas turbines will continue to be regulated as separate source categories for criteria and toxic pollutants under Subparts Da and KKKK.

Why hold coal boilers and gas turbines to different standards for those pollutants? The EPA’s answer: “This is because although coal-fired EGUs have an array of control options for criteria and toxic air pollutants to choose from, those controls generally do not reduce their criteria and air toxic emissions to the level of conventional emissions from natural gas-fired EGUs.”

The same reasoning argues even more strongly against imposing a single GHG standard on coal boilers and natural gas turbines. Coal boilers do not have an “array of control options” for CO2 emissions, and have no “adequately demonstrated” option for reducing CO2 emissions to the level of gas-fired EGUs. Subpart TTTT is an administrative contortion concocted to kill the future of coal generation.

Why Care Even If You Don’t Mine or Combust Coal for a Living

At this point you may be wondering why anyone outside the coal industry should care about this cockamamie rule. There are several reasons.

First and most obviously, banning new coal generation could increase electric rates and make prices more volatile. For generations, coal has supplied half or more of U.S. electricity, and still provides the single largest share. The “carbon pollution” standard is risky because coal’s chief competitor, natural gas, has a history of price volatility and a future clouded by the environmental movement’s hostility to hydraulic fracturing, the technology transforming gas from a costly shrinking resource to an affordable expanding resource.

The “carbon pollution” standard itself could put the kibosh on new gas-fired generation if the EPA concludes, as MIT researchers contend, that fugitive methane emissions from hydraulic fracturing make gas as carbon-intensive as coal.

The EPA is also developing GHG performance standards for refineries. “Unconventional” oil production from shale and oil sands is booming in North America, creating thousands of jobs, generating billions of dollars in tax revenues, and reducing U.S. dependence on OPEC oil. But unconventional oil production is energy-intensive and therefore carbon-intensive. It is unknown whether or how the forthcoming GHG standard for refineries will address the carbon intensity of unconventional oil. What we do know is that the environmental groups who litigated the EPA into proposing these standards are arch foes of unconventional oil.

In any event, the “carbon pollution” standard for power plants is just the start of a regulatory trajectory, not its end point. The EPA’s settlement agreement with environmental groups and state attorneys general obligates the agency to extend the standard to “modified” coal power plants and establish emission “guidelines” for non-modified units.

Moreover, the standard sets a precedent for promulgating NSPS for other GHG source categories – including natural gas. As indicated above, if gas can set the standard for coal, then wind and solar can set the standard for gas, and the refinery standard could undermine the profitability of unconventional oil. Although initially directed against new coal, the standard puts all fossil-energy production in an ever-tightening regulatory noose.

Pandora’s NAAQS

Taking a longer view, the “carbon pollution” rule moves the U.S. economy one step closer to the ultimate environmental policy disaster: national ambient air quality standards (NAAQS) for GHGs.

In December 2009, the EPA issued a rule under Section 202 of the Clean Air Act declaring that GHG emissions from new motor vehicles endanger public health and welfare. The endangerment rule was both prerequisite and trigger for the agency’s adoption, in January 2011, of first-ever GHG motor vehicle standards. The agency now claims that it need not issue a new and separate endangerment finding under Section 211 to adopt first-ever GHG performance standards for power plants, because subsequent science confirms and strengthens its Section 202 finding.

An implication of this argument is that the EPA need not make a new endangerment finding to promulgate NAAQS for GHGs under Section 108, because the Section 202 finding would suffice for that as well.

Section 108 of the Clean Air Act requires the EPA to initiate a NAAQS rulemaking for “air pollution” from “numerous or diverse mobile or stationary sources” if such pollution “may reasonably be anticipated to endanger public health and welfare.” Carbon dioxide obviously comes from numerous and diverse mobile and stationary sources, and the EPA has already determined that the associated “air pollution” – the “elevated concentrations” of GHGs in the atmosphere – endangers public health and welfare. Logically, the EPA must establish NAAQS for GHGs set below current atmospheric concentrations.

Eco-litigants have already put this ball in play. The Center for Biological Diversity and 350.Org petitioned the EPA more than two years ago to establish NAAQS for CO2 at 350 parts per million (roughly 40 parts per million below current concentrations) and for other GHGs at pre-industrial levels.

The potential for mischief is hard to exaggerate. Not even a worldwide depression that permanently lowers global economic output and emissions to, say, 1970 levels, would stop CO2 concentrations from rising over the remainder of the century. Yet the Clean Air Act requires States to adopt implementation plans adequate to attain primary (health-based) NAAQS within five or at most 10 years. A CO2 NAAQS set at 350 parts per million would require a level of economic sacrifice vastly exceeding anything contemplated by the Waxman-Markey cap-and-trade bill or the Copenhagen climate treaty, which aimed to stabilize CO2-equivalent emissions at 450 parts per million by 2050.

The EPA has yet to decide on the CBD-350.Org petition. Perhaps this is another case of punting unpopular regulatory decisions until Obama’s second term. The one instance where the administration addressed the issue is not reassuring. In a brief submitted to the Supreme Court in American Electric Power v. Connecticut, the Obama Justice Department described Section 108 as one of the provisions making the Clean Air Act a “comprehensive regulatory framework” for climate change policy.

Ultimately, only the people’s representatives can protect coal generation, hydraulic fracturing, and unconventional oil from hostile regulation. But nixing the “carbon pollution” standard would be a big setback to both the EPA and the eco-litigation fraternity, and would help safeguard America’s energy options until a future Congress reins in the agency.

#### Coal NSPS establishes a precedent that leads to broader GHG regulation—destroys range of industries

Chamber of Commerce et al, 6/25/12, Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, Docket ID No. EPA –HQ–OAR–2011–0660; FRL– 9654–7, 77 Fed. Reg. 22,392 (April 13, 2012), The National Association of Manufacturers, the American Chemistry Council, American Forest & Paper Association, American Fuel & Petrochemical Manufacturers, American Iron and Steel Institute, American Petroleum Institute, American Wood Council, Brick Industry Association, Corn Refiners Association, Council of Industrial Boiler Owners, National Oilseed Processors Association, Portland Cement Association, The Fertilizer Institute, and the U.S. Chamber of Commerce, http://www.nam.org/~/media/53E86E050C7A495A9CC84F9778BA1F10/Association\_GHG\_NSPS\_Comments\_June\_25\_2012.pdf

The Associations represent the nation’s leading manufacturing sectors which form the backbone of the nation’s industrial ability to grow our economy and provide jobs in an environmentally sustainable and energy efficient manner. Although the EPA’s proposed New Source Performance Standard (“NSPS”) addresses specifically the utility sector, we collectively have significant concerns regarding the EPA’s first-ever regulation of greenhouse gas (“GHG”) emissions from a source category under Section 111, both because of the impact these regulations will have on energy prices and reliability, as well as the potential precedent-setting nature of the approach on manufacturing sectors in the future. It is also possible that the proposed rule may directly apply to future projects of the Associations’ members, including, for example, cogeneration plants owned, operated, or co-located at their facilities. The Associations are key stakeholders on any regulation that impacts energy and which may impact manufacturers directly in the future. For the reasons described below, we urge the EPA to withdraw this proposal given the already significant adverse consequences of the proposal on industry, and to engage instead—if at all—in a process with all interested stakeholders as to whether and how the EPA should approach GHG regulation through NSPS before proposing rules that have an immediate and harmful impact.

As discussed below, the EPA’s NSPS proposal is unprecedented not only in its policy reach, but in the significant number of compounding errors that exceed the EPA’s authority under the Clean Air Act. At the outset, we have an overarching concern that the NSPS proposal crosses a line by expanding the EPA’s 40-year mandate as the preeminent regulator of the environment to become a regulator of energy. In this environmental regulation the EPA is controlling not merely the emissions of air pollutants, but the choice of fuel and energy that a project must utilize if it is to be constructed or operated. The EPA’s approach to force one type of fuel to be switched for another arises out of the proposal’s effort to combine two independent and distinct source categories and regulate them together under a single standard of performance that simply cannot be attained by one of the source categories. In doing so, the EPA is effectively dictating both fuel choice and design choice for new electric utility generating units (“EGUs”), contrary to Congressional intent and the EPA’s authority as a regulator of the environment, not energy. This action will have far-reaching effects, not only for the EGUs themselves, but also for the many other industries that depend upon the energy that they provide and may one day become subject to the same types of regulations.

#### GHG regs on the semiconductor industry kills competitiveness

SIA, SEMICONDUCTOR INDUSTRY ASSOCIATION, 1/31/11, SEMICONDUCTOR INDUSTRY ASSOCIATION PETITION FOR RECONSIDERATION AND REQUEST FOR STAY PENDING RECONSIDERATION OF SUBPART I OF THE FINAL RULE FOR MANDATORY REPORTING OF GREENHOUSE GASES, http://op.bna.com/env.nsf/id/fwhe-8z4l8q/$File/sia.petition.pdf

Individual recipes are among the most closely-guarded trade secrets in the semiconductor industry,36 and several courts have acknowledged that semiconductor chip manufacturing processes and design are protectable as trade secrets.37 To remain globally competitive, a semiconductor company must innovate on a constant basis to bring new and faster products to market. Accordingly, semiconductor manufacturers invest considerable time and money in research and development to perfect the recipes used in the fabrication process. Each company’s recipe portfolio has an inherent intellectual property value in the hundreds of millions to billions of dollars. Final Subpart I, although it does not mandate the submission of any full recipe, does require reporting of certain recipe-specific information. As explained below, this information could provide enough specific knowledge of proprietary device designs and manufacturing processes to allow for reverse engineering of individual recipes and otherwise would compromise the trade secrets within a company’s recipe portfolio.38 In particular, Section 98.96 of the Final Subpart I requires facilities to report the following information:  Type of each gas used for each set of similar recipes;39  Recipe-specific utilization and byproduct rates (i.e., emission factors);40  The film or substrate that was etched or cleaned and the feature type that was etched for each recipe in Part 98.96(f)(1);41  Quantity of each gas used for each set of “similar” recipes, to be reported on an annualized basis;42  All apportioning factors used to apportion F-gas and N2O consumption;43 and Identification of the quantifiable metric used in a facility-specific engineering model to apportion gas consumption.44 The level of intellectual property inherent in the foregoing information is significant. Essentially, SIA understands these reporting requirements to require that a company reveal the quantity of gas being used (1) for each type of “film” being etched (e.g., oxide, nitride) and (2) for each “feature” within that film (e.g., gate, deep trench).45 As result, a company wouldberevealinginformation about its process and particular recipes used in that process which it, in many cases, has never shared publicly and which it regards as intellectual property. For example, a company would need, under these information requirements, to reveal that in its 300 millimeter fabrication process, for a specific group of “similar” recipes it uses X kg of SF6 and Y kg of CHF3 to etch silicon nitride layers in gate stack in year 2010. In addition, Final Subpart I would require each facility to maintain recipe- specific records in order to document compliance with the requirements of the Rule and make such records available to EPA. In particular, Section 98.97(b) of the Rule requires the following records be kept by any facility that estimates emissions using recipe-specific emission factors, i.e., “large” facilities: ￼43 44 45 46 (1) “Complete documentation and final report for measurements for recipe specific [emission factors]”; and (2) “Documentation that recipe-specific [emission factors] developed for your facility are measured for recipes that are similar to those used at your facility, as defined in § 98.98. The documentation must include, at a minimum, recorded to the appropriate number of significant figures, reactor pressure, flow rates, chemical composition, applied RF power, direct current (DC) bias, temperature, flow stabilization time, and duration.”46 Of particular concern to SIA and its members is that these records could become subject to inquiries as to their content and sufficiency not only by EPA in an enforcement context, but also by local residents and other private citizens in future permitting and related contexts (e.g., a Freedom of Information Act Request or through discovery in a citizen suit filed under the Clean Air Act).47 Etch recipes are considered trade secrets and, as such, are tightly controlled. Most semiconductor companies – even very prolific patentees – opt to protect their recipes as trade secrets, rather than through patents, which require disclosure of the recipe. If these records are made public, they could loose their status as trade secrets, allowing competitors to reverse engineer recipes, thereby compromising the value of information worth up to several billion dollars to each company. The loss of trade secret protection for semiconductor etch recipe information through its public disclosure via the Final Rule could amount to a regulatorytakingofintellectualproperty.48 ItdoesnotappearthatEPA(orthe Office of Management and Budget) has undertaken any analysis of this potential erosion of private intellectual property value. In addition to this potential takings issue, disclosure of recipe information may also present national security concerns at those semiconductor facilities that are designated Trusted Foundries by the U.S. National Security Agency.49 Moreover, EPA has not yet finalized its position on what information submitted under the Reporting Rule constitutes “emissions data” that are not subject to confidential treatment under the CAA. Section 114(c) of the Clean Air Act provides that “records, reports or information” submitted to EPA in connection with a rulemaking or “standards” development or as part of an ongoing compliance requirement or through an investigation or enforcement proceeding may be maintained as confidential so long as they do not constitute “emissionsdata.”50 UnderEPA’sregulations,thedeterminationofwhich information is “emissions data” has been made on a case-by-case basis based on information submitted by individual emission sources.51 In July 2010, EPA published a proposal (hereinafter “Proposed CBI Rule”) that, if finalized, will constitute EPA’s prospective determination of which information required to be submitted under Subpart I will qualify as “emissions data” and, therefore, will not be eligible for confidential treatment under the Rule.52 TheProposedCBIRuleidentifieswhichinformationEPAwillconsider “emissions data” by reference to specific sections in Subpart I. At the time of its publication in July 2010, the Proposed CBI Rule referred to the information requirements of Subpart I as they existed then; this was the Re-Proposed Subpart I, which, as described in Section II(B)(1)(a) above, required submission of information, including emission factors under § 98.96(d), only for certain process categories, and not on a recipe-specific basis. Therefore, the determination of which data submitted under Subpart I constitute “emissions data” was made by EPA without any evaluation of the Final Subpart I’s recipe- specific reporting regime. If EPA were to persist in its position articulated in the Proposed CBI Rule, much of the information underlying the Final Subpart I’s emissions calculations,53 including the recipe-specific emissions factors, would constitute “emissions data,” thereby making recipe-specific information vulnerable to public disclosure even more broadly outside the enforcement and permitting contexts described above. Although SIA commented on the Proposed CBI Rule,54 it was obviously impracticable for SIA to comment on the Proposed CBI Rule as it would ultimately apply -- i.e., to the submission of recipe-specific emission factors. The mere fact that the Final Subpart I would probe so deeply into the semiconductor fabrication process as to create such vulnerabilities to intellectual property underscores why an individual recipe-based approach is not sound for the long term, even if EPA were to address the definitional and other issues to render the Final Subpart I technically feasible. In addition, EPA utterly failed to recognize and address these intellectual property threats when promulgating the Final Subpart I, and therefore, EPA must grant reconsideration on this issue to rectify these serious gaps in its legal and policy analysis. c. Exorbitant Costs Section III.B. below addresses the full range of economic impacts of the Final Subpart I not considered by EPA due to flawed assumptions underlying its Economic Impact Assessment. However, an additional element of technical impracticality of an individual recipe-by-individual recipe measurement approach pertains to its exorbitant costs. Thus, we review those exorbitant costs briefly in this context. As explained in Section III.B. below, SIA engaged ISMI to survey large facilities to determine the true burden to the semiconductor industry of complying with a recipe-based measurement approach. This survey requested companies to assume compliance with the Final Subpart I was technically feasible and would require measurement testing of all dis-“similar” recipes. Notably, ISMI estimated -- using conservative assumptions which likely underestimate costs -- $56 million to perform such testing in the first year, and $18 million per year in subsequent years, not even taking into account production downtime.55 These costs dwarf EPA’s estimates,56 which as detailed in Section III.B., rely on flawed assumptions. As further evidence of the exorbitance -- and therefore of technical impracticality -- of an individual recipe-based measurement approach, SIA has performed a comparison of the costs of this approach along with total compliance costs for other industry sectors subject to GHG reporting. EPA’s estimate of compliance costs for all sectors, which SIA determined by totaling estimates provided in the September 2009 Regulatory Impact Assessment (RIA)57 for the initially finalized GHG reporting rule and in the Preambles for subsequently finalized GHG reporting subparts,58 is approximately $165 million in the first year, and $95 million per year in subsequent years. Thus, based on ISMI’s estimate, the cost to the semiconductor industry to develop dis-“similar” individual recipe-specific emissions factors equates to more than one-third (34%) of EPA’s estimate of first year costs for all sectors, and almost one-fifth (18%) of subsequent annual costs for all sectors. This cost proportion would appear wholly unreasonable, especially given that the semiconductor industry’s F-gas emissions comprise only 0.08% of the total GHG emissions inventory.59 A per ton CO2e60 analysis further underscores this point. EPA has estimated both the first year and subsequent annual costs for Subpart I compliance at $0.33/ton. EPA already has acknowledged that these estimated Subpart I costs are the highest CO2e per ton compliance costs of any GHG reporting subpart by a substantial margin.61 That margin grows to an untenable level, however, when applying ISMI’s cost estimates for the Recipe-Specific Utilization and By-Product Formation Rates requirement alone. In particular, applying the ISMI first and subsequent year cost estimates of $56 million and $17 million respectively per year to EPA’s emissions estimate for the semiconductor industry of 5.7 million tons CO2e,62 the per CO2e ton cost of complying with only the s/c etch recipe aspect of Subpart I would be $9.80/ton in the first year, and $2.98/ton per year in subsequent years. These costs are 35 and 20 times greater than the next highest sectors’ first year and subsequent year per ton costs,63 and 122 and 60 times more than the first year and subsequent year averages for all sectors. In view of the ISMI numbers likely underestimating costs and only being for partial compliance, it is clear that the Final Subpart I would require the U.S. semiconductor industry to incur compliance costs lacking any reasonable proportion to the industry’s emissions.64

#### Semiconductors are key to US nuclear modernization

Chandratre et al 7

(V.B. Chandratre et al 7, Menka Tewani, R.S. Shastrakar, V. Shedam, S. K. Kataria and P. K. Mukhopadhyay Electronics Division, Bhabha Atomic Research Centre “AN APPROACH TO MODERNIZING NUCLEAR INSTRUMENTATION: SILICON-BASED SENSORS, ASIC AND HMC” October, <http://www.barc.ernet.in/publications/nl/2007/200710-2.pdf>)

Modernization of nuclear instrumentation is pursued for realizing the goal of compact portable nuclear instruments, detector mount electronics and related instrumentation that can be designed, developed and manufactured, to mitigate contemporary instrumentation challenges. The activity aims at indigenous design and development of crucial components of nuclear instrumentation. Efforts are also undertaken to develop the critical microelectronics technologies to fulfill the gaps in nuclear instruments “ end to end”. The activity’s objective has been fulfilled by working in close collaboration with semiconductor foundries and HMC (Hybrid Micro Circuits) facilities. Various ASIC, sensors, IP cores, HMC, display devices and critical instrumentation modules developed, are discussed. The design and development of nuclear instruments require a variety of high performance components and sensors. Till recently these components were available and activity based on this approach has grown mature, with good expertise in related areas but has availability and obsolescence issues. As the technologies have moved up, various competing devices, techniques and technologies are available today. It’s important and as well prudent to catch up with these cutting edge developments, for a very strong reason that we have not been able to catch up with previous technology movements. Technology updates are difficult and have higher lead times with steeper learning curve. The Electronics Division has taken a modest initiative in fulfilling the gap in this area. Care has been taken to develop critical instrumentation by an approach of “mix and match”, integrating the newer development in the existing instrumentation on the basis of merit and requirements. Nuclear instrumentation has been a strong driver for technology developments worldwide. The low / medium energy instrumentation requirements we meet fairly with combination of NIM, CAMAC, FASTBUS and VME-based instrumentation. With use of the sensors of higher granularity, higher event rate, imaging and tracking requirements coupled with complex trigger mechanism, the approach has changed to low power detector mount electronics or monolithic sensor with electronics. Rapid developments in semiconductor technology have aided in realizing this concept.

#### Nuclear war

John P. Caves 10, Senior Research Fellow in the Center for the Study of Weapons of Mass Destruction at the National Defense University, “Avoiding a Crisis of Confidence in the U.S. Nuclear Deterrent”, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ada514285>

Perceptions of a compromised U.S. nuclear deterrent as described above would have profound policy implications, particularly if they emerge at a time when a nucleararmed great power is pursuing a more aggressive strategy toward U.S. allies and partners in its region in a bid to enhance its regional and global clout. ■ A dangerous period of vulnerability would open for the United States and those nations that depend on U.S. protection while the United States attempted to rectify the problems with its nuclear forces. As it would take more than a decade for the United States to produce new nuclear weapons, ensuing events could preclude a return to anything like the status quo ante. ■ The assertive, nuclear-armed great power, and other major adversaries, could be willing to challenge U.S. interests more directly in the expectation that the United States would be less prepared to threaten or deliver a military response that could lead to direct conflict. They will want to keep the United States from reclaiming its earlier power position. ■ Allies and partners who have relied upon explicit or implicit assurances of U.S. nuclear protection as a foundation of their security could lose faith in those assurances. They could compensate by accommodating U.S. rivals, especially in the short term, or acquiring their own nuclear deterrents, which in most cases could be accomplished only over the mid- to long term. A more nuclear world would likely ensue over a period of years. ■ Important U.S. interests could be compromised or abandoned, or a major war could occur as adversaries and/or the United States miscalculate new boundaries of deterrence and provocation. At worst, war could lead to state-on-state employment of weapons of mass destruction (WMD) on a scale far more catastrophic than what nuclear-armed terrorists alone could inflict.

#### Plan ruling key to prevent EPA regulatory intrusions on the states—NSPS intrusion key

John Riley and Chris Thiele, Bracewell & Giuliani LLP, 6/18/2012, STATE OF TEXAS et al., Petitioners, v. U.S. ENVIRONMENTAL PROTECTION AGENCY et al., Respondents, http://www.nam.org/~/media/C6C193AF87314B9A9EFF68D8548DD8A5/SIP\_FIP\_advocacy\_Group\_brief\_in\_Texas\_v\_EPA\_DC\_Cir\_06182012.pdf

For nearly two decades, Texas maintained and implemented an EPA-approved major source preconstruction permitting program. This program made Texas the sole permitting authority for new major sources in the State, and allowed it to manage its air quality resources and issue permits in a timely manner. But when EPA set out to impose its greenhouse gas (“GHG”) regulatory agenda, it determined that Texas’ permitting program, and the procedural regularities required for its revision, were obstacles to the Agency’s chosen regulatory timetable. EPA’s solution: to disapprove retroactively Texas’ Clean Air Act (“CAA”) state plan submission decades after EPA originally approved it, and to base its disapproval on information about Texas’ procedures for revising its plan that EPA knew of when it originally approved the submission. Having disapproved Texas’ plan, in December 2010, EPA promulgated the same federal GHG-permitting authority that it had represented to this Court only two months earlier could not be implemented until December 2011 “at the earliest.” Att. 1 to Decl. of Regina McCarthy (Oct. 28, 2010) (“McCarthy Decl.”), J.A. \_\_.

EPA claims to find authority for these actions in CAA § 110(k)(6). But “Congress ... does not alter the fundamental details of a regulatory scheme in vague terms or ancillary provisions—it does not, one might say, hide elephants in mouseholes.” Whitman v. Am. Trucking Ass’ns, Inc., 531 U.S. 457, 468 (2001). According to its text and structure, CAA § 110(k)(6) is nothing more than a limited error-correction provision meant to deal with minor clerical or technical errors, not USCA carte blanche for EPA to revoke decades-old decisions that were statutorily compelled at inception but failed to predict changed EPA policy. Likewise, EPA’s assertion of inherent authority is incompatible with the Act’s specific limitations on EPA’s discretion. And EPA’s decision to act without notice and comment—itself unjustified and unlawful—only confirms the arbitrary nature of the Agency’s actions.

Regardless of whether this Court ultimately upholds EPA’s GHG regulations—a decision it likely will reach before the conclusion of this litigation— EPA was bound to follow the Act’s procedural regularities in implementing those actions. Its failure to do so, if upheld, could legitimize EPA in the future to divest states of their lawful regulatory authority whenever it is convenient or conducive to EPA’s policy goals. The only way this Court can uphold the integrity of the CAA’s procedural protections, which act to safeguard all parties from ad hoc and arbitrary agency actions, is to vacate the actions under review.

#### That collapses cooperative federalism

Jerde et al, 12

Jay Jerde, Jeremiah Williamson, Nancy Vehr, Wyoming Attorney General’s Office; Greg Abbott, Attorney General of Texas; 2/12/12, UTILITY AIR REGULATORY GROUP, Petitioner, v. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, Respondent, https://www.oag.state.tx.us/newspubs/releases/2012/020912epa\_brief.pdf

§ 110(k)(5). EPA’s actions are contrary to law, and significantly undermine Congress’s express intent that EPA must implement the Clean Air Act through cooperative federalism.

The SIP Call affects the prevention of significant deterioration program, which applies to stationary sources. At the time of the SIP Call, Texas and Wyoming had valid, EPA-approved prevention of significant deterioration state plans in place that satisfied all relevant state plan requirements. See 40 C.F.R. § 52.2303 (Texas) and § 52.2630 (Wyoming). Clean Air Act § 110(i) requires stationary source state plan requirements to be adopted by States under § 110(a) or imposed by EPA through a properly-promulgated federal implementation plan under § 110(c) of the Act:

Except for . . . a plan promulgation under subsection (c) of this section, or a plan revision under subsection (a)(3) of this section; no order, suspension, plan revision, or other action modifying any requirement of an applicable implementation plan may be taken with respect to any stationary source by the State or by the Administrator.

42 U.S.C. § 7410(i).2

Rather than allowing Texas or Wyoming to undertake prospective state plan revisions or waiting three years before imposing a federal plan after Texas or Wyoming failed to submit the required state plan revision under 40 C.F.R. § 51.166(a)(6), EPA unlawfully attempted to expedite the process by calling for immediate state plan revisions under Clean Air Act § 110(k)(5). But Clean Air Act § 110(k)(5) does not apply because Clean Air Act § 110(i) bars EPA from requiring any “plan revisions . . . with respect to stationary sources” outside the framework of Clean Air Act § 110(a). See Concerned Citizens of Bridesburg , 836 F.2d at 787 n.12 (stating that the Clean Air Act “enumerate[s] an exhaustive list of the EPA’s powers regarding SIPs” and that “[l]acking another statutory source of authority, the EPA must utilize the [SIP] revision provisions to accomplish its purpose.”). In contrast, Clean Air Act § 110(k)(5) only gives EPA authority to call for plan revisions where a state implementation plan is inadequate to meet the requirements in force when the plan was submitted. Neither Texas’s nor Wyoming’s plan was required to regulate greenhouse gases because EPA had not yet determined to regulate greenhouse gases when their state plans were approved. Because EPA regulation of greenhouse gases is a new requirement under the Clean Air Act, EPA must follow the Clean Air Act § 110(a) state plan revision process in order to change the requirements applicable to stationary sources in Texas and Wyoming.

Moreover, EPA’s attempt to use Clean Air Act § 110(k)(5) to coerce immediate state plan revisions out of Texas and Wyoming by threatening a construction moratorium contradicts Congress’s plan for cooperative federalism under the Clean Air Act. See Offshore Logistics, Inc. v. Tallentire, 477 U.S. 207, 220-221 (1986) (statute must be interpreted “in light of the language of the Act as a whole, the legislative history . . . , [and] the congressional purposes underlying the Act”). Congress intended that States retain “primary responsibility” for controlling air pollution. 42 U.S.C. § 7401(a)(3). EPA ignored its obligation to proceed under the Clean Air Act’s statutory state plan revision requirements because so proceeding would have afforded Texas and Wyoming three years to revise their state plans and to challenge EPA’s greenhouse gas rules before being required to implement them.

EPA’s call for immediate plan revisions under Clean Air Act § 110(k)(5) was therefore unlawful and should be vacated.

#### Precedent for cooperative federalism necessary for effective healthcare

Health Law Week, 3/31/2006, ERISA Preemption Of State Healthcare Reform, Lexis

According to James E. Holloway, some recent federal healthcare programs have been examples of cooperative federalism, but the federal preemption under ERISA has made it difficult for states and local governments to develop health programs.

Among the factors affecting state and local efforts to develop health programs are requirements for federal waivers for medical assistance and requirements for uniform federal compliance, as well as active federal intervention in state fields of public policy.

While the U.S. Supreme Court has identified healthcare as a traditional area reserved for state public policy, the Court has also broadly interpreted ERISA's preemption provisions. If healthcare reform is to take place, however, there needs to be more cooperation in regard to federal and state policies.

ERISA's preemption provisions protect business interests by enlarging managerial discretion. In addition, the relationship between ERISA and state common law is unusual under federalism. While the U.S. Constitution does not list healthcare as an area in which the federal government has exclusive power, the preemption provisions of ERISA make federal healthcare regulation dominant over state healthcare regulation.

When Congress began authorizing federal healthcare regulation, states did not have substantial healthcare policies in place. However, cooperative federalism, in which the federal and state governments share responsibilities and power, is necessary in order for citizens to have adequate access to healthcare.

Many Americans do not have access to healthcare, and states have tried many methods of creating access to healthcare. States have tried to enact programs that provide more healthcare, which includes efforts to provide more access to prescription drugs and efforts to reform medical malpractice.

The federal approach to healthcare and medical care assistance is piecemeal, consisting of Medicare, Medicaid and the Health Information Portability and Accountability Act of 1996 (HIPAA), among other legislation. This legislation addresses and corrects some of the issues raised by ERISA's preemption provision, but there are signs the federal government is moving away from cooperative federalism in its healthcare reform efforts.

Section 514(a) of ERISA provides that ERISA "shall supersede all state law that relates to any employee benefit plan." However, states and local governments do have some interest in healthcare policy, and ERISA does not preempt laws that are of general applicability. In addition, claims that do not arise under ERISA, such as claims arising under state medical liability legislation, are not preempted by ERISA.

Cooperative federalism is the key to providing effective healthcare reform. States cannot regulate healthcare on their own and, therefore, require the cooperation of the federal government. However, federal dominance of healthcare policy under ERISA is not healthy for cooperative federalism.

#### Specifically under the Clean Air Act

Jerome Paulson, George Washington University Associate Professor, 6/15/11, CLEAN AIR ACT AND PUBLIC HEALTH, Congressional Testimony, Lexis

Healthy children are far more likely to grow up into healthy adults. Conversely, children who experience poor health are more likely to suffer from ill health in adulthood. Inadequate attention to preventive health care mortgages the future health and welfare not only of children, but of society itself. Research across a broad range of interventions has shown that preventive health and wellness for children consistently produces a high return on investment. Ensuring that children breathe air that is free of chemicals and pollutants is an extremely effective and economical intervention for promoting lifelong health and reducing long term health costs.

According to the EPA's recent report "The Benefits and Costs of the Clean Air Act from 1990 to 2020," in 2010, the Clean Air Act prevented 160,000 cases of premature adult mortality, 230 cases of infant mortality, 130,000 heart attacks, 3.2 million lost school days, 86,000 emergency department visits, and 1.7 million asthma attacks. These health quality measures and lives saved are expected to continue to improve significantly over the next decade.

According to the EPA's report, complying with the Clean Air Act will cost about $65 billion per year, but the benefits are projected at $2 trillion per year, most of which is saved through reduced morbidity and mortality. As a pediatrician, the Clean Air Act's tremendous cost savings represent not just economics, they represent children: fewer children suffering from asthma attacks, fewer hospitalizations, less respiratory tract illnesses, improved lung capacity and function for growing children, and healthier infants and newborns. Treating chronic conditions that are created or exacerbated by air pollution is currently expensive to our public and private sectors, and health care costs will continue to increase each year. At a time when lawmakers are intensely focused on reducing health care costs, expanding efforts to regulate and limit air pollutants could prove to be a successful and effective tool in accomplishing this goal.

AAP Recommendations

The AAP recommends in the strongest terms possible that the Clean Air Act should not be weakened in any way that decreases the protection of children's health. Weakening standards now will almost certainly result in increased emergency room visits and hospital admissions for children with respiratory issues, resulting in increased direct costs for medical care, and increased indirect costs from lost productivity due to missed school and work. Weakening standards now will almost certainly result in adults with increased chronic lung disease as they age.

#### It’s also key to ACA implementation

Peter Harkness, Governing The State and Localities staff writer, May 2012, The Affordable Care Act: A Case Study for Cooperative Federalism?, www.governing.com/columns/potomac-chronicle/col-affordable-care-act-case-study-for-cooperative-federalism.html

Oddly enough, if you care about federalism, the ACA eventually could become a case study in healthy federal-state relations. HHS Secretary Kathleen Sebelius might as well be auditioning to be Ms. Flexibility, seeing as how she’s allowing states ever-expanding wiggle room in the way they plan and administer their exchanges. Indeed, an amicus brief filed by 11 states and led by Oregon argued that the reform act, if anything, gives states more freedom.

“In a cooperative federalist program, the federal government establishes the program’s core requirements and gives the states the freedom to implement their own programs,” the brief stated. “While expanding Medicaid’s basic eligibility standards, the ACA does not disturb the states’ autonomy and freedom to experiment that has always been a hallmark of the program.”

In part, the administration’s deferential posture is political: The White House doesn’t want to be seen as grabbing authority from states. But there also seems to be a genuine “laboratories of democracy” strategy developing to test various approaches within a general framework to see what works. Oregon, for example, is one of the most aggressive states in overhauling its health-care system to improve quality of care, cut costs and establish an insurance exchange.

#### Health care solve bioterror

Green, Ph.D, Program Leader – McLaughlin-Rotman Centre for Global Health, ‘4

(Shane K, “Bioterrorism and Health Care Reform: No Preparedness Without Access,” http://virtualmentor.ama-assn.org/2004/05/pfor2-0405.html)

The temporal correlation between the occurrence of wars or epidemics and attempts at health care reform exists in large part because the health of the public gains importance when its absence threatens a nation's integrity and security. The US learned this valuable lesson during the Revolutionary War, when American colonial forces were weakened early on as nonimmunized soldiers fell victim to smallpox, while British soldiers, who had encountered the disease in England and had thus acquired immunity, were relatively unaffected. Recognizing that protecting national interests in times of war necessitates a healthy fighting force, the US government instituted health care coverage for members of the US Armed Forces and Merchant Marine [1]. But with the US presently engaged in a "war on terror," in which not only soldiers but also civilians are targets, a healthy fighting force is no longer enough to ensure national security; the time has come for this country to take up reforms that promote the health of all Americans. Reassuringly, this is not a novel proposal. Reflecting upon statements made in 1944 by American medical historian Henry E. Sigerist, MD, concerning the power of external security threats to stimulate reform, a recent editorial in the *American Journal of Public Health* suggested that, "[t]his incendiary moment may be just the time for rekindling reform" [2]. Similarly, emergency physician and medical ethicist C. Griffin Trotter, MD, PhD, recently declared: "National security, I submit, is the new banner for health care reform" [3]. Consider the threat of bioterrorism: the potential use of biological weapons against this country raises the specter of a unique kind of war in which battles will be fought not against soldiers and artillery but against epidemics. Without significant reform to ensure access to health care for all Americans, the US will be unable to fight such battles effectively. Why Access? Using infectious diseases as weapons, bioterrorism threatens to weaken the civilian workforce and, hence, a nation's ability to go about its daily business. Moreover, in the case of diseases that are transmissible person to person, each infected individual becomes a human weapon, infecting others, who then infect others, and so on, tying up medical responders and overwhelming medical resources. A nation's greatest defense against bioterrorism, both in preparation for and in response to an attack, is a population in which an introduced biological agent cannot get a foothold, ie, healthy people with easy access to health care. Yet, in spite of spending significantly more *per capita* on health care than any other developed nation, the US is peppered with communities in which many people have little or no access to health care. This may be due to a lack of adequate health insurance—a fact of life for over 43 million demographically diverse Americans—or to cultural barriers that inhibit proper utilization of available services, or to inadequate distribution of health professionals and services. These communities are more vulnerable to infectious diseases [4] and therefore might be considered the nation's Achilles' heal in a bioterrorism attack. Take, for example, vaccination. A lack of access to health care among US citizens, particularly immigrant populations and those living in poverty, is associated with a failure to be vaccinated. This can have a serious impact on the spread of contagion, as evidenced by a rubella outbreak in 1997 in Westchester County, New York, in which a readily containable virus managed to infect a community composed largely of immigrants who had not been immunized [5].

#### Extinction

Steinbrenner 97

(Senior Fellow – Brookings, Foreign Policy, 12/22)

Although human pathogens are often lumped with nuclear explosives and lethal chemicals as potential weapons of mass destruction, there is an obvious, fundamentally important difference: Pathogens are alive, weapons are not. Nuclear and chemical weapons do not reproduce themselves and do not independently engage in adaptive behavior; pathogens do both of these things. That deceptively simple observation has immense implications. The use of a manufactured weapon is a singular event. Most of the damage occurs immediately. The aftereffects, whatever they may be, decay rapidly over time and distance in a reasonably predictable manner. Even before a nuclear warhead is detonated, for instance, it is possible to estimate the extent of the subsequent damage and the likely level of radioactive fallout. Such predictability is an essential component for tactical military planning. The use of a pathogen, by contrast, is an extended process whose scope and timing cannot be precisely controlled. For most potential biological agents, the predominant drawback is that they would not act swiftly or decisively enough to be an effective weapon. But for a few pathogens - ones most likely to have a decisive effect and therefore the ones most likely to be contemplated for deliberately hostile use - the risk runs in the other direction. A lethal pathogen that could efficiently spread from one victim to another would be capable of initiating an intensifying cascade of disease that might ultimately threaten the entire world population. The 1918 influenza epidemic demonstrated the potential for a global contagion of this sort but not necessarily its outer limit.

# 2AC

## heidegger

#### Quality of life is skyrocketing worldwide by all measures

Ridley, visiting professor at Cold Spring Harbor Laboratory, former science editor of *The Economist*, and award-winning science writer, 2010

(Matt, *The Rational Optimist*, pg. 13-15)

If my fictional family is not to your taste, perhaps you prefer statistics. Since 1800, the population of the world has multiplied six times, yet **average life expectancy has more than doubled and real income has risen more than nine times**. Taking a shorter perspective, in 2005, compared with 1955, the average human being on Planet Earth earned nearly three times as much money (corrected for inflation), ate one-third more calories of food, buried one-third as many of her children and could expect to live one-third longer. She was less likely to die as a result of war, murder, childbirth, accidents, tornadoes, flooding, famine, whooping cough, tuberculosis, malaria, diphtheria, typhus, typhoid, measles, smallpox, scurvy or polio. She was less likely, at any given age, to get cancer, heart disease or stroke. She was more likely to be literate and to have finished school. She was more likely to own a telephone, a flush toilet, a refrigerator and a bicycle. All this during a half-century when the world population has more than doubled, so that far from being rationed by population pressure, the goods and services available to the people of the world have expanded. It is, by any standard, an astonishing human achievement. Averages conceal a lot. **But even if you break down the world into bits**, **it is hard to find any region that was worse off in 2005 than it was in 1955**. Over that half-century, real income per head ended a little lower in only six countries (Afghanistan, Haiti, Congo, Liberia, Sierra Leone and Somalia), life expectancy in three (Russia, Swaziland and Zimbabwe), and infant survival in none. In the rest they have rocketed upward. Africa’s rate of improvement has been distressingly slow and patchy compared with the rest of the world, and many southern African countries saw life expectancy plunge in the 1990s as the AIDS epidemic took hold (before recovering in recent years). There were also moments in the half-century when you could have caught countries in episodes of dreadful deterioration of living standards or life chances – China in the 1960s, Cambodia in the 1970s, Ethiopia in the 1980s, Rwanda in the 1990s, Congo in the 2000s, North Korea throughout. Argentina had a disappointingly stagnant twentieth century. But overall, after fifty years, **the outcome for the world is** remarkably, astonishingly, **dramatically positive**. The average South Korean lives twenty-six more years and earns fifteen times as much income each year as he did in 1955 (and earns fifteen times as much as his North Korean counter part). The average Mexican lives longer now than the average Briton did in 1955. The average Botswanan earns more than the average Finn did in 1955. **Infant mortality is lower today in Nepal than it was in Italy in 1951**. The proportion of Vietnamese living on less than $2 a day has dropped from 90 per cent to 30 per cent in twenty years. The rich have got richer, but the poor have done even better. **The poor in the developing world grew their consumption twice as fast as the world as a whole between 1980 and 2000**. The Chinese are ten times as rich, one-third as fecund and twenty-eight years longer-lived than they were fifty years ago. Even Nigerians are twice as rich, 25 per cent less fecund and nine years longer-lived than they were in 1955. **Despite a doubling of the world population**, even **the raw number of people living in absolute poverty** (defined as less than a 1985 dollar a day) **has fallen since the 1950s**. The percentage living in such absolute poverty has dropped by more than half – to less than 18 per cent. That number is, of course, still all too horribly high, but the trend is hardly a cause for despair: at the current rate of decline, it would hit zero around 2035 – though it probably won’t. The United Nations estimates that poverty was reduced more in the last fifty years than in the previous 500.

#### The enframing argument is terrible – it flattens and equates all energy forms, as well as genocide

Garrard 10

 Interdiscip Stud Lit Environ (2010) doi: 10.1093/isle/isq029 First published online: May 11, 2010 Staff Profile For Dr Greg Garrard Reader in English Literature. School of Humanities and Cultural Industries. PhD [University of Liverpool], BA(Hons) [UW Swansea], MA [UW Swansea]. Personal Statement:

Even if there were an epoch of technological enframing, Heidegger's interest would lie in analyzing its supposed “essence,” rather than understanding the development and differentiation of technology in terms of its ecological impact. From the perspective of the history of Being, renewable forms of energy generation are just the same as non-renewable and polluting ones, wind farms no better than coal-fired steam turbines. Indeed, the science of ecology, which alerts us to environmental problems and proposes means of mitigating them, is also “in essence” technological. The most striking example of how Heidegger demotes the plight of beings (human or not) is to be found in the original lecture “The Enframing” that was doctored to yield the famous essay “The Question Concerning Technology,” published in 1949. Heidegger's original claim was that, in terms of the epoch of enframing: “[a]griculture is now a motorized food industry: in its essence it is the same thing as the manufacture of corpses in gas chambers and extermination camps, the same thing as blockades and the reduction of an area to hunger, the same as the manufacture of hydrogen bombs” (Heidegger, “Enframing” 217). This analogy, suppressed in the published essay, is one of the very few instances in which Heidegger mentions the Holocaust. He relativizes Nazi crimes by equating them with the Allied blockade of Germany as well as the bombing of Hiroshima and Nagasaki, but also argues that the enframing of fields of wheat is “in essence the same” as the reduction of the racial enemies of Nazism to “standing reserve,” on call for annihilation. Troubling as this analogy is, for animal rights activists there is a morally valid analogy between the mass slaughter of animals in factory systems and that of racial “subhumans.” However, the real point is not that Heidegger has apparently elevated intensive agriculture to the moral seriousness of genocide, but rather that—in terms of “essential thinking”—both are equally unimportant.5 Heidegger deployed an apparently familiar rhetoric of “saving the earth,” but what he meant by it was something so “essential,” so metaphysical; it is clear that even global warming would be “the same” as pea-farming, “the same” as damming the Rhine, “the same” as Auschwitz. To “save the earth” is to redeem Being from Western metaphysics, not to find solutions to empirical problems.6 The essence of Heidegger's argument is nonsense, and what is not is freely available elsewhere without the surplus metaphysical baggage.

#### Ontology not first

**Kratochwil**, professor of international relations – European University Institute, **‘8**

(Friedrich, “The Puzzles of Politics,” pg. 200-213)

The lesson seems clear. Even at the danger of “fuzzy boundaries”, when we deal with “practice” ( just as with the “pragmatic turn”), we would be well advised to rely on the use of the term rather than on its reference (pointing to some property of the object under study), in order to draw the bounds of sense and understand the meaning of the concept. My argument for the fruitful character of a pragmatic approach in IR, therefore, does not depend on a comprehensive mapping of the varieties of research in this area, nor on an arbitrary appropriation or exegesis of any specific and self-absorbed theoretical orientation. For this reason, in what follows, I will not provide a rigidly specified definition, nor will I refer exclusively to some prepackaged theoretical approach. Instead, I will sketch out the reasons for which a prag- matic orientation in social analysis seems to hold particular promise. These reasons pertain both to the more general area of knowledge appropriate for praxis and to the more specific types of investigation in the field. The follow- ing ten points are – without a claim to completeness – intended to engender some critical reflection on both areas.

Firstly, a pragmatic approach does not begin with objects or “things” (ontology), or with reason and method (epistemology), but with “acting” (prattein), thereby preventing some false starts. Since, **as historical beings placed in a specific situations, we do not have the luxury of deferring decisions until we have found the “truth”, we have to act and must do so always under time pressures and in the face of incomplete information.** Pre- cisely because the social world is characterised by strategic interactions, what a situation “is”, is hardly ever clear ex ante, because it is being “produced” by the actors and their interactions, and the multiple possibilities are rife with incentives for (dis)information. This puts a premium on quick diagnostic and cognitive shortcuts informing actors about the relevant features of the situ- ation, and on leaving an alternative open (“plan B”) in case of unexpected difficulties. Instead of relying on certainty and universal validity gained through abstraction and controlled experiments, we know that completeness and attentiveness to detail, rather than to generality, matter. To that extent, likening practical choices to simple “discoveries” of an already independently existing “reality” which discloses itself to an “observer” – or relying on optimal strategies – is somewhat heroic.

These points have been made vividly by “realists” such as Clausewitz in his controversy with von Bülow, in which he criticised the latter’s obsession with a strategic “science” (Paret et al. 1986). While Clausewitz has become an icon for realists, only a few of them (usually dubbed “old” realists) have taken seriously his warnings against the misplaced belief in the reliability and use- fulness of a “scientific” study of strategy. Instead, most of them, especially “neorealists” of various stripes, have embraced the “theory”-building based on the epistemological project as the via regia to the creation of knowledge. A pragmatist orientation would most certainly not endorse such a position.

Secondly, since acting in the social world often involves acting “for” some- one, special responsibilities arise that aggravate both the incompleteness of knowledge as well as its generality problem. Since we owe special care to those entrusted to us, for example, as teachers, doctors or lawyers, we cannot just rely on what is generally true, but have to pay special attention to the particular case. Aside from avoiding the foreclosure of options, we cannot refuse to act on the basis of incomplete information or insufficient know- ledge, and the necessary diagnostic will involve typification and comparison, reasoning by analogy rather than generalization or deduction. Leaving out the particularities of a case, be it a legal or medical one, in a mistaken effort to become “scientific” would be a fatal flaw. Moreover, there still remains the crucial element of “timing” – of knowing when to act. Students of crises have always pointed out the importance of this factor but, in attempts at building a general “theory” of international politics analogously to the natural sci- ences, such elements are neglected on the basis of the “continuity of nature” and the “large number” assumptions. Besides, “timing” seems to be quite recalcitrant to analytical treatment.

## dedev

#### Transition fails—causes war—consumption would reemerge even worse—try or die assessments are wrong

Monbiot, 9

George Monbiot, The Guardian, 2009, Is there any point in fighting to stave off industrial apocalypse?, [www.guardian.co.uk/commentisfree/cif-green/2009/aug/17/environment-climate-change](http://www.guardian.co.uk/commentisfree/cif-green/2009/aug/17/environment-climate-change)

I detect in your writings, and in the conversations we have had, an attraction towards – almost a yearning for – this apocalypse, a sense that you see it as a cleansing fire that will rid the world of a diseased society. If this is your view, I do not share it. I'm sure we can agree that the immediate consequences of collapse would be hideous: the breakdown of the systems that keep most of us alive; mass starvation; war. These alone surely give us sufficient reason to fight on, however faint our chances appear. But even if we were somehow able to put this out of our minds, I believe that what is likely to come out on the other side will be worse than our current settlement.

Here are three observations: 1 Our species (unlike most of its members) is tough and resilient; 2 When civilisations collapse, psychopaths take over; 3 We seldom learn from others' mistakes.

From the first observation, this follows: even if you are hardened to the fate of humans, you can surely see that our species will not become extinct without causing the extinction of almost all others. However hard we fall, we will recover sufficiently to land another hammer blow on the biosphere. We will continue to do so until there is so little left that even Homo sapiens can no longer survive. This is the ecological destiny of a species possessed of outstanding intelligence, opposable thumbs and an ability to interpret and exploit almost every possible resource – in the absence of political restraint.

From the second and third observations, this follows: instead of gathering as free collectives of happy householders, survivors of this collapse will be subject to the will of people seeking to monopolise remaining resources. This will is likely to be imposed through violence. Political accountability will be a distant memory. The chances of conserving any resource in these circumstances are approximately zero. The human and ecological consequences of the first global collapse are likely to persist for many generations, perhaps for our species' remaining time on earth. To imagine that good could come of the involuntary failure of industrial civilisation is also to succumb to denial. The answer to your question – what will we learn from this collapse? – is nothing.

#### Past the tipping point and dedev doesn’t solve

Savory 8

Allan Savory, Savory Center for Holistic Management Founder, received the Australian International Banksia Award for the person or organization doing the most for the environment on a global scale, 2008, A Global Strategy for Addressing Global Climate Change, holisticmanagement.org.au/PDF/A+Global+Strategy+for+Addressing+Climate+Change+2%5B1%5D.pdf

Simplistic and counter intuitive as it may be the fate of civilization today hangs on two slender threads – the correct management of livestock and the rapid development of benign energy to sustain cities and mass transport. Excessive emissions of carbon and other gases from fossil fuels are not the only causes of global climate change, nor are they the greatest cause of climate change, as popularly espoused. Humans began to change climate in ancient times through their actions that began to disrupt complex living communities. Diminishing biodiversity and replacing the role of large herbivores and predators in the world's savannas with fire. Ancient practices, continued to this day, ensured land degradation (desertification) and increased atmospheric carbon dioxide and other gases from fires and soil. This process of environment destruction had destroyed many civilizations before coal and oil were discovered or widely used.

Essential as it is, stopping carbon emissions entirely will not alone solve the potential catastrophe facing humanity because a great part of what amounts to global environmental malfunction cannot be attributed to carbon emissions. **If tomorrow we somehow achieved zero emissions from fossil fuels we still would not avert major catastrophe. Grassland and savanna burning would continue, desertification would continue to accelerate with soils increasingly unable to store either carbon or water and the climate continued to change**.

#### Complexity doesn’t cause collapse, only diminishing returns

Tainter, professor of environment and society – Utah State University, 11/3/’9

(Joseph A, “Interview with Joseph Tainter on Collapse,” <http://varnelis.net/blog/interview_with_joseph_tainter_on_collapse>)

KV: So as civilizations develop, you conclude, they differentiate—for example, by creating highly specialized social roles—and build greater and greater levels of organization that require higher investment of energy to maintain. Eventually the marginal returns on investment decline and civilizations either figure out how to deal with that situation or collapse. You note that from the perspective of humans as a species and hominadae as a family, complexity is quite unusual. Most of our existence has been in small settlements or nomadic groups that have relatively little differentiation and low levels of complexity.

Today we are living in the most complex society that has ever existed, yet we’ve avoided collapse thus far. Why is that?

JT: Diminishing returns to complexity are probably inevitable, but collapse doesn’t necessarily follow. Collapses are actually not that common. There are several ways to cope with diminishing returns to complexity. One is to find energy subsidies to pay for the process. That is what we have done with fossil fuels. And it is a big part of why a future crisis in fossil fuels is the most important thing we should be worrying about.

#### Manufacturing solves financial bubbles via fundamentals

#### Tech solves the impact and collapse is worse

Indur **Goklany 10**, policy analyst for the Department of the Interior – phd from MSU, “Population, Consumption, Carbon Emissions, and Human Well-Being in the Age of Industrialization (Part IV – There Are No PAT Answers, or Why Neo-Malthusians Get It Wrong)”, April 26, <http://www.masterresource.org/2010/04/population-consumption-carbon-emissions-and-human-well-being-in-the-age-of-industrialization-part-iv-there-are-no-pat-answers-or-why-neo-malthusians-get-it-wrong/>

Neo-Malthusians believe that humanity is doomed unless it reins in population, affluence and technological change, and the associated consumption of materials, energy and chemicals. But, as shown in the previous posts and elsewhere, empirical data on virtually every objective indicator of human well-being indicates that the state of humanity has never been better, despite unprecedented levels of population, economic development, and new technologies. In fact, human beings have never been longer lived, healthier, wealthier, more educated, freer, and more equal than they are today. Why does the Neo-Malthusian worldview fail the reality check? The fundamental reasons why their projections fail are because they assume that population, affluence and technology — the three terms on the right hand side of the IPAT equation — are independent of each other. Equally importantly, they have misunderstood the nature of each of these terms, and the nature of the misunderstanding is essentially the same, namely, that contrary to their claims, each of these factors instead of making matters progressively worse is, in the long run, necessary for solving whatever problems plague humanity. Compounding these misunderstandings, environmentalists and Neo-Malthusians frequently conflate human well-being with environmental well-being. While the latter influences the former, the two aren’t the same. Few inside, and even fewer outside, rich countries would rank environmental indicators among the most important indicators of human well-being except, possibly, access to safe water and sanitation. These two environmental indicators also double as indicators of human well-being because they have a large and direct bearing on human health. In any case, they are subsumed within life expectancy, which, as noted, is the single most important indicator of human well-being. The UNDP’s Human Development Index, for instance, uses three indicators — life expectancy, per capita income and some combined measure of education and literacy. None of these three are related to the environment. The disconnect between environmental indicators and indicators of human well-being is further evidenced by the fact that over the last century, the most critical indicators of human well-being — life expectancy, mortality rates, prevalence of hunger and malnutrition, literacy, education, child labor, or poverty — generally improved regardless of whether environmental indicators (e.g., levels of air and water pollution, loss of biodiversity) fluctuated up or down (see, e.g., the previous post and here). Moreover, fears that the world’s population would continue to increase exponentially have failed to materialize. The world’s population growth rate peaked in the late 1960s. Population increased by 10.6% from 1965–70, but only 6.0% from 2000–05. Many countries are now concerned that fewer young people means that their social security systems are unsustainable. Projections now suggest that the world’s population may peak at around 9 billion around mid-century (see here). The slowdown in the population growth rate, unanticipated by Neo-Malthusians, can be attributed to the fact that population (P) is dependent on affluence (or the desire for affluence) and technology (A and T in the IPAT equation). Empirical data show that as people get wealthier or desire greater wealth for themselves or their offspring, they tend to have fewer children. Cross-country data shows that the total fertility rate (TFR), which measures the number of children per women of child-bearing age, drops as affluence (measured by GDP per capita) increases (see Figure 1). Moreover, for any given level of affluence, TFR has generally dropped over time because of changes in technology, and societal attitudes shaped by the desire for economic development (see here). Most importantly, it is not, contrary to Neo-Malthusian fears, doomed to rise inexorably, absent coercive policies. Neo-Malthusians also overlook the fact that, in general, affluence, technology and human well-being reinforce each other in a Cycle of Progress (Goklany 2007a, pp. 79-97). If existing technologies are unable to reduce impacts or otherwise improve the quality of life, wealth and human capital can be harnessed to improve existing technologies or create new ones that will. HIV/AIDS is a case in point. The world was unprepared to deal with HIV/AIDS when it first appeared. For practical purposes, it was a death sentence for anyone who got it. It took the wealth of the most developed countries to harness the human capital to develop an understanding of the disease and devise therapies. From 1995 to 2004, age-adjusted death rates due to HIV declined by over 70 percent in the US (USBC 2008). Rich countries now cope with it, and developing countries are benefiting from the technologies that the former developed through the application of economic and human resources, and institutions at their disposal. Moreover, both technology and affluence are necessary because while technology provides the methods to reduce problems afflicting humanity, including environmental problems, affluence provides the means to research, develop and afford the necessary technologies. Not surprisingly, access to HIV therapies is greater in developed countries than in developing countries. And in many developing countries access would be even lower but for wealthy charities and governments from rich countries (Goklany 2007a, pp. 79–97). Because technology is largely based on accretion of knowledge, it ought to advance with time, independent of affluence — provided society is open to scientific and technological inquiry and does not squelch technological change for whatever reason. Consequently, indicators of human well-being improve not only with affluence but also with time (a surrogate for technology). This is evident in Figure 1, which shows TFR dropping with time for any specific level of GDP per capita. It is also illustrated in Figure 2 for life expectancy, which shows that wealthier societies have higher average life expectancies, and that the entire life expectancy curve has been raised upward with the passage of time, a surrogate for technological change (broadly defined). Other indicators of human well-being — e.g., crop yield, food supplies per capita, access to safe water and sanitation, literacy, mortality — also improve with affluence and, separately, with time/technology (see here and here). This indicates that secular technological change and economic development, rather than making matters worse, have actually enhanced society’s ability to solve its problems and advanced its quality of life. Moreover, population is not just a factor in consumption. It is the basis for “human capital.” No humans, no human capital. Humans are not just mouths, but also hands and brains. As famously noted by Julian Simon, they are the Ultimate Resource. This is something Neo-Malthusians have difficulty in comprehending. Notably, a World Bank study, Where is the Wealth of Nations?, indicated that “human capital and the value of institutions … constitute the largest share of wealth in virtually all countries.” A population that is poor, with low human capital, low affluence, and lacking in technological knowhow is more likely to have higher mortality rates, and lower life expectancy than a population that is well educated, affluent and technologically sophisticated, no matter what its size. These factors — human capital, affluence and technology — acting in concert over the long haul, have enabled technology for the most part to improve matters faster than any deterioration due to population, affluence (GDP per person) or their product (GDP). This has helped keep environmental damage in check, (e.g., for cropland, a measure of habitat converted to human uses) or even reverse it (e.g., for water pollution, and indoor and traditional outdoor air pollution), particularly in the richer countries. Note that since the product of population (P) and affluence (A or GDP per capita) is equivalent to the GDP then according to the IPAT identity, which specifies that I = P x A x T, the technology term (T) is by definition the impact (I) per GDP (see Part II in this series of posts). I’ll call this the impact intensity. If the impact is specified in terms of emissions, then the technology term is equivalent to the emissions intensity, that is, emissions per GDP. Therefore the change in impact intensity (or emissions intensity) over a specified period is a measure of technological change over that period. Since matters improve if impact/emissions intensity drops, a negative sign in front of the change in impact intensity denotes that technological change has reduced the impact. Table 1 shows estimates of the changes in impacts intensity, or technological change, over the long term for a sample of environmental indicators for various time periods and geographical aggregations. Additional results regarding technological change over different time periods and countries are available from the original source (here). These results indicate that in the long run, technological change has, more often than not, reduced impacts. The reduction in many cases is by an order of magnitude or more! Thus, notwithstanding plausible Neo-Malthusian arguments that technological change would eventually increase environmental impacts, historical data suggest that, in fact, technological change ultimately reduces impacts, provided technology is not rejected through an inappropriate exercise of the precautionary principle or compromised via subsidies (which usually flow from the general public to politically favored elements of society). To summarize, although population, affluence and technology can create some problems for humanity and the planet, they are also the agents for solving these very problems. In the IPAT equation, the dependence of the I term on the P, A and T terms is not fixed. It evolves over time. And the Neo-Malthusian mistake has been to assume that the relationship is fixed, or if it is not, then it changes for the worse. A corollary to this is that projections of future impacts spanning a few decades but which do not account for technological change as a function of time and affluence, more likely than not, will overestimate impacts, perhaps by orders of magnitude. In fact, this is one reason why many estimates of the future impacts of climate change are suspect, because most do not account for changes in adaptive capacity either due to secular technological change or increases in economic development (see here and here). Famously, Yogi Berra is supposed to have said, “It’s tough to make predictions, especially about the future.” Most analysts recognize this. They know that just because one can explain and hindcast the past, it does not guarantee that one can forecast the future. Neo-Malthusians, by contrast, cannot hindcast the past but are confident they can forecast the future. Finally, had the solutions they espouse been put into effect a couple of centuries ago, most of us alive today would be dead and those who were not would be living poorer, shorter, and unhealthier lives, constantly subject to the vagaries of nature, surviving from harvest to harvest, spending more of our time in darkness because lighting would be a luxury, and our days in the drudgery of menial tasks because under their skewed application of the precautionary principle (see here, here and here) fossil fuel consumption would be severely curtailed, if not banned. Nor would the rest of nature necessarily be better off. First, lower reliance on fossil fuels would mean greater demand for fuelwood, and the forests would be denuded. Second, less fossil fuels also means less fertilizer and pesticides and, therefore, lower agricultural productivity. To compensate for lost productivity,, more habitat would need to be converted to agricultural uses. But habitat conversion (including deforestation) — not climate change — is already the greatest threat to biodiversity!

**No extinction**

Easterbrook 3(Gregg, senior fellow at the New Republic, “We're All Gonna Die!”, <http://www.wired.com/wired/archive/11.07/doomsday.html?pg=1&topic=&topic_set>=)

If we're talking about doomsday - the end of human civilization - many scenarios simply don't measure up. A single nuclear bomb ignited by terrorists, for example, would be awful beyond words, but life would go on. People and machines might converge in ways that you and I would find ghastly, but from the standpoint of the future, they would probably represent an adaptation. Environmental collapse might make parts of the globe unpleasant, but considering that the biosphere has survived ice ages, it wouldn't be the final curtain. Depression, which has become 10 times more prevalent in Western nations in the postwar era, might grow so widespread that vast numbers of people would refuse to get out of bed, a possibility that Petranek suggested in a doomsday talk at the Technology Entertainment Design conference in 2002. But Marcel Proust, as miserable as he was, wrote *Remembrance of Things Past* while lying in bed.

## t – restriction

#### NSPS bans coal

Brownell et al 12

F. William Brownell, Henry V. Nickel, Norman W. Fichthorn, Allison D. Wood, Hunton & Williams LLP, 9/6/12, LASBRISASENERGYCENTER,LLC,etal., Petitioners, v. UNITED STATES ENVIRONMENTAL ) PROTECTION AGENCY and LISA PEREZ JACKSON, Administrator, United States Environmental Protection Agency, Respondents, insideEPA database

Here, by contrast, EPA published a proposed CO2 NSPS that cannot be achieved by any new coal-fired EGU to which it applies. By virtue of that standard having becoming “applicable” as of April 13, 2012, it now sets the “floor” for determining BACT for those new units and obligates them to demonstrate that they can comply with a standard that is unachievable, a showing that cannot be made.8

The fundamental “alter[ation]” of the PSD “legal regime” effected by EPA’s publication of the April 13 Notice is much more significant than the impediment to permitting that the Supreme Court in Sackett found sufficient to satisfy the second Bennett criterion. In Sackett, the Supreme Court found that “‘legal consequences . . . flow[ed]’” from EPA’s issuance of a compliance order under section 309 of the Clean Water Act, insofar as such issuance “severely limit[ed] the Sacketts’ ability to obtain a permit for their fill from the Army Corps of Engineers,” in light of the Corps’ regulations. 132 S. Ct. at 1371-72 (quoting Bennett, 520 U.S. at 178) (emphasis added). In contrast, since April 13, 2012, electric generators’ ability to obtain PSD permits for new coal-fired EGUs has been not merely “limited” but eliminated entirely.

#### Counter-interp—restrictions include limiting conditions

Plummer 29 J., Court Justice, MAX ZLOZOWER, Respondent, v. SAM LINDENBAUM et al., Appellants Civ. No. 3724COURT OF APPEAL OF CALIFORNIA, THIRD APPELLATE DISTRICT100 Cal. App. 766; 281 P. 102; 1929 Cal. App. LEXIS 404September 26, 1929, Decided, lexis

The word "restriction," when used in connection with the grant of interest in real property, is construed as being the legal equivalent of "condition." Either term may be used to denote a limitation upon the full and unqualified enjoyment of the right or estate granted. The words "terms" and "conditions" are often used synonymously when relating to legal rights. "Conditions and restrictions" are that which limits or modifies the existence or character of something; a restriction or qualification. It is a restriction or limitation modifying or destroying the original act with which it is connected, or defeating, terminating or enlarging an estate granted; something which defeats or qualifies an estate; a modus or quality annexed by him that hath an estate, or interest or right to the same, whereby an estate may be either defeated, enlarged, or created upon an uncertain event; a quality annexed to land whereby an estate may be defeated; a qualification or restriction annexed to a deed or device, by virtue of which an estate is made to vest, to be enlarged or defeated upon the happening or not happening of a particular event, or the performance or nonperformance of a particular act.

#### This is the middle ground—

LVM Institute 96, Ludwig Von Mises Institute Original Book by Ludwig Von Mises, Austrian Economist in 1940, fourth edition copyright Bettina B. Greaves, Human Action, http://mises.org/pdf/humanaction/pdf/ha\_29.pdf

Restriction of production means that the government either forbids or makes more difficult or more expensive the production, transportation, or distribution of definite articles, or the application of definite modes of production, transportation, or distribution. The authority thus eliminates some of the means available for the satisfaction of human wants. The effect of its interference is that people are prevented from using their knowledge and abilities, their labor and their material means of production in the way in which they would earn the highest returns and satisfy their needs as much as possible. Such interference makes people poorer and less satisfied.

This is the crux of the matter. All the subtlety and hair-splitting wasted in the effort to invalidate this fundamental thesis are vain. On the unhampered market there prevails an irresistible tendency to employ every factor of production for the best possible satisfaction of the most urgent needs of the consumers. If the government interferes with this process, it can only impair satisfaction; it can never improve it.

The correctness of this thesis has been proved in an excellent and irrefutable manner with regard to the historically most important class of government interference with production, the barriers to international trade. In this field the teaching of the classical economists, especially those of Ricardo, are final and settle the issue forever. All that a tariff can achieve is to divert production from those locations in which the output per unit of input is higher to locations in which it is lower. It does not increase production; it curtails it.

#### “On production” means there’s no limits disad

Dictionary.com, http://dictionary.reference.com/browse/on

On

preposition

1.so as to be or remain supported by or suspended from: Put your package down on the table; Hang your coat on the hook.

2.so as to be attached to or unified with: Hang the picture on the wall. Paste the label on the package.

## amendment

#### Perm solves the link to the DA

Ronald J. Krotoszynski, Jr. Associate Professor of Law Fall, 2002 1 Geo. J.L. & Pub. Pol'y 133 “The Eleventh Amendment, Federalism, and Judicial Activism: Questions and Answers: The Wages of Crying Wolf Revisited: The Essential Consanguinity of Lochner, Roe, and Eastern Enterprises”

Of course, Professor Ely's warning has proven to be prescient. Bush v. Gore 70 represents the culmination of the approach to constitutional adjudication that Justices Brennan and Blackmun pioneered--an approach now embraced from time to time by most (if not all) of the top incumbent members of the Supreme Court. Rather than honor disliked precedents, a justice should simply overrule them. If a majority can't be mustered to overrule, the conscientious justice should perpetually dissent from the disliked precedents. Further, rather than abstain from judicial intervention when the amending process is underway, the Supreme Court should simply extend 71 or preempt 72 the Article V proceedings. Under this approach, the Supreme Court does not merely have the last word on questions of constitutional meaning, but also has the power to usurp the processes of constitutional amendment itself.

#### Delay

**Chism, National Archives education specialist, 2005** (

**The constitutional amendment process.(teaching content).** Kahlil ***Social Education*** 69.7 (Nov-Dec 2005): p373(9). )

Even though the steps can be described briefly, actual ratification can take much longer. Some amendments, such as the 27th (Congressional pay increases), took many years to complete the ratification process. It was proposed by James Madison in 1789, but not ratified until 203 years later. This amendment required that any change in the salary of members of Congress only take effect after the next general election (so lawmakers were not voting to increase their own salaries). Congress ratified other amendments in short order, such as the 18th (Prohibition), which took little more than a year. The length of time depends upon the gravity of the issue the amendment is intended to address, the intensity of public sentiment concerning the issue, and whether or not a time limit for ratification was written into the amendment during the proposal stage.

#### Delay triggers compliance timelines

McCarthy and Copeland 11

James E. McCarthy, Congressional Research Service Specialist in Environmental Policy, and Claudia Copeland, Specialist in Resources and Environmental Policy, 8/8/11, EPA’s Regulation of Coal-Fired Power: Is a “Train Wreck” Coming?, www.fas.org/sgp/crs/misc/R41914.pdf

Timing and Reliability Issues It is difficult to generalize about the timing and system reliability issues. Several utilities state that they will have difficulty meeting the deadlines. In congressional testimony, April 15, 2011, Thomas A. Fanning, the Chairman, President, and Chief Executive Officer of The Southern Company, which provides electricity to 4.4 million customers in the Southeastern United States, stated: The reliability of the nation’s electric generating system is at risk because of the number of new rules and regulations applicable to power plants. The stringency of these regulations, the lack of flexibility likely to be provided within these regulations, and, above all, the compliance schedules that will be required put reliability at risk. Accelerated plant retirements and shutdowns triggered by the Utility MACT rule will cause reserve capacity to plummet, increasing the likelihood and severity of service disruptions.81 In announcing the retirement of one-fourth of its coal-fired generation, June 9, 2011, American Electric Power’s Chairman and CEO, Michael G. Morris, in a press release, stated: We support regulations that achieve long-term environmental benefits while protecting customers, the economy and the reliability of the electric grid, but the cumulative impacts of the EPA’s current regulatory path have been vastly underestimated, particularly in Midwest states dependent on coal to fuel their economies. We have worked for months to develop a compliance plan that will mitigate the impact of these rules for our customers and preserve jobs, but because of the unrealistic compliance timelines in the EPA proposals, we will have to prematurely shut down nearly 25 percent of our current coal-fueled generating capacity, cut hundreds of good power plant jobs, and invest billions of dollars in capital to retire, retrofit and replace coal-fueled power plants.82

#### That means they solve nothing – compliance happens now

James E. McCarthy, Congressional Research Service, Specialist in Environmental Policy, 1/9/12, EPA’s Utility MACT: Will the Lights Go Out?, www.eenews.net/assets/2012/01/19/document\_gw\_03.pdf

Unless the Presidency changes hands in the next election, that would leave the courts as the most likely venue for a successful challenge to the rule. A court challenge can take years. The challenge to EPA’s 2005 utility mercury rule, for example, took nearly three years before the D.C. Circuit Court of Appeals overturned it. In the meantime, unless stayed by the court, the rule will be in effect, and power companies, facing a tight deadline, will need to begin the planning, design, and construction necessary to comply with the standards.

#### CP doesn’t solve, or Court enforcement triggers the disad

Louis Michael **Seidman**, Georgetown Professor of Law, **and** Virginia E. **Sloan**, THE CONSTITUTION PROJECET Executive Director, 19**99**, ““GREAT AND EXTRAORDINARYOCCASIONS” <http://www.constitutionproject.org/pdf/great_and_extraordinary_occasions.pdf>

Of course, most existing constitutional amendments are also silent regarding the means of enforcement. Since Marbury v. Madison, however, there has been a presumption that judicial enforcement will generally be available. If its proponents intend and the courts find the balanced budget amendment to be similarly enforceable, it raises no issues under this Guideline. But it is not clear that the proponents so intend. Granting to courts the right to determine when outlays exceed receipts and to devise the appropriate remedy for such a con- stitutional violation would arguably constitute an unprecedented expansion of judicial power. If proponents of the amendment do not intend these consequences, there is a risk that the amendment will be purely aspirational or that it will be enforced in ways they might find objectionable.

#### Amendments link

Louis Michael **Seidman**, Georgetown Professor of Law, **and** Virginia E. **Sloan**, THE CONSTITUTION PROJECET Executive Director, 19**99**, ““GREAT AND EXTRAORDINARYOCCASIONS” <http://www.constitutionproject.org/pdf/great_and_extraordinary_occasions.pdf>

Finally, restraint is necessary because proposed amendments to the Constitution often put on the table fundamental issues about our character as a nation, thereby bringing to the fore the most divisive questions on the political agenda. Two centuries ago, James Madison warned of the “danger of disturbing the public tranquility by interesting too strongly the public passions” through proposed constitutional change. It is not only wrong to trivialize the Constitution by cluttering it with measures embody- ing no more than ordinary policy; it is also a mistake to reopen basic questions of governance lightly. Occasional debates about fundamental matters can be cleansing and edifying, but no coun- try can afford to argue about these issues continuously. Our abil- ity to function as a pluralistic democracy depends upon putting ultimate issues to one side for much of the time, so as to focus on the quotidian questions of ordinary politics. As Madison argued shortly after the Constitution’s drafting, changes in basic con- stitutional structure are “experiments . . . of too ticklish a nature to be unnecessarily multiplied.”

## immigration

#### Health care costs will collapse ag

Lancaster Farming, 9 (“Farm Growth Limited by Health Care Costs,” <http://www.lancasterfarming.com/node/2382>)

 “We strongly support the public option,” said Roger Johnson, National Farmers Union president in a teleconference this Tuesday with regional farm leaders and the media. Our current health care system is “enormously uncompetitive” and hampers our ability to compete globally with industrialized nations who benefit from national health care systems, said Johnson. “Americans pay twice as much for our health care” as those nations do. That is, those Americans who can afford to pay for insurance at all. Johnson cited inadequate health care in rural areas — and lack of affordable coverage for farmers in particular — as “long-standing problems” that the Union has been trying to address. Now NFU has high hopes that the current bill in the Senate will pass what it characterizes as “much needed reform.” A personal health care crisis is “the number one cause of bankruptcy among Americans,” said Johnson and further charged that the current practice of denying coverage on the basis of pre-existing conditions is “immoral.” “Those people who need health care the most are  being excluded. We’re looking forward to this issue being rectified soon” by congressional leaders. Discussing issues of lack of competition and barriers to health care coverage among farmers was a panel of ag leaders: John Hansen, president of the Nebraska Farmers Union; Annie Cheatham, president of the New England Farmers Union; and Olly Neal, vice president of the Arkansan Land and Farm Development Corporation. The skyrocketing cost of health care and the strain it puts on farm families to find work off the farm or buy expensive single policies was a common refrain. Insurance premiums on average have risen more than 75 percent from 2000-2007 in Arkansas, Louisiana, Maine and Nebraska. The increases are even greater in the individual and small group market available to most farmers. “Farmers often have to purchase insurance for themselves and their families in the individual market where premiums are higher,” said Johnson. “Farmers also tend to be older and are more likely to suffer from chronic health conditions, and private insurers consider them to be in a high risk profession.”

#### Visas aren’t key

Shannon O'Neil, Foreign Policy, 1/29/13, Think Again: Immigration, www.foreignpolicy.com/articles/2013/01/29/think\_again\_immigration\_reform\_united\_states

Not likely. Starting in 2005, the number of migrants coming from Mexico -- who comprise one-third of the U.S. foreign born population -- began declining. The deceleration then picked up pace with the 2008 world financial crisis, so much so that a 2012 Pew Hispanic report noted that for the first time in decades, the number of Mexicans entering the country was the same as those leaving -- leading to a "net zero" in terms of flows. Though the U.S. recession played a role, perhaps the most important -- and permanent -- factor behind this shift is demographic. In the 1970s, even as mortality rates declined, Mexican women on average had seven children. Today, that number is much closer to two -- much like the United States. This means that the "extra" Mexican youth who came of age in the 1990s and early 2000s have dissipated, and are unlikely to return again. These fewer siblings are staying in school longer -- most now through high school and many into college -- further reducing the pool of young men and women searching for opportunities to the north. Economic prospects at home have also improved. The booms and busts of the 1980s and 1990s, which pushed so many Mexicans across the border, seem to have ended. Instead, Mexico's new economic story is one of a growing middle class -- now some 60 million strong -- made up of lawyers, accountants, small and medium size business owners, higher-skilled factory workers, and taxi drivers, among many other professions. These economic shifts also have encouraged Mexicans to stay home. This is not to say that immigration from Mexico will dry up completely. The combination of better pay and rising U.S. demand for labor will continue to draw many from Mexico -- as well as from around the world -- to America's workplaces. For instance, immigration from Central America -- though much lower in terms of sheer numbers -- continues unabated. And immigration reform, which is now on the table after the Republican Party's record-low showing with Hispanic voters, could make it easier for many to stay, and for more to come. Still, even if new legislation opens the door to citizenship, history suggests that all of these immigrants wouldn't rush in. In the 26 years since Congress passed the Immigration Reform and Control Act, which created a pathway for legalization, fewer than a third of the 2.7 million Mexicans eligible under the law decided to naturalize.

#### That avoids the link

Keith Whittington, Princeton Politics Professor, 2005, Interpose Your Friendly Hand: Political Supports for the Exercise of Judicial Review by the United States Supreme Court, The American Political Science Review, Nov., (99)4,

There are some issues that politicians cannot easily handle. For individual legislators, their constituents may be sharply divided on a given issue or overwhelmingly hostile to a policy that the legislator would nonetheless like to see adopted. Party leaders, including presidents and legislative leaders, must similarly sometimes manage deeply divided or cross-pressured coalitions. When faced with such issues, elected officials may actively seek to turn over controversial political questions to the courts so as to circumvent a paralyzed legislature and avoid the political fallout that would come with taking direct action themselves. As Mark Graber (1993) has detailed in cases such as slavery and abortion, elected officials may prefer judicial resolution of disruptive political issues to direct legislative action, especially when the courts are believed to be sympathetic to the politician's own substantive preferences but even when the attitude of the courts is uncertain or unfavorable (see also, Lovell 2003). Even when politicians do not invite judicial intervention, strategically minded courts will take into account not only the policy preferences of well-positioned policymakers but also the willingness of those potential policymakers to act if doing so means that they must assume responsibility for policy outcomes. For cross-pressured politicians and coalition leaders, shifting blame for controversial decisions to the Court and obscuring their own relationship to those decisions may preserve electoral support and coalition unity without threatening active judicial review (Arnold 1990; Fiorina 1986; Weaver 1986). The conditions for the exercise of judicial review may be relatively favorable when judicial invalidations of legislative policy can be managed to the electoral benefit of most legislators. In the cases considered previously, fractious coalitions produced legislation that presidents and party leaders deplored but were unwilling to block. Divisions within the governing coalition can also prevent legislative action that political leaders want taken, as illustrated in the following case.

#### But he’d use the plan to horsetrade for legislation

Tristan Brown, Seeking Alpha, 11/8/12, Don't Expect The EPA To Finish Off Thermal Coal, seekingalpha.com/article/990181-don-t-expect-the-epa-to-finish-off-thermal-coal

Carbon Pollution Standard for New Power Plants (CPS): The CPS will restrict the greenhouse gas (GHG) emissions of new fossil fuel-fired electric utility generating units with a capacity greater than 25 MW. Affected power plants will be required to limit the carbon intensity of electricity produced to below 1000 lbs CO2/MWh. Coal-fired units have a carbon intensity of roughly 1700 lbs CO2/MWh while natural gas-fired units have an intensity of 800 lbs CO2/MWh, so this proposed regulation is widely viewed as an effort to force new power plants to employ natural gas rather than coal as feedstock. It has easily been one of most contentious pieces of proposed EPA regulation in recent years, likely because it arose from the fallout of the failed American Clean Energy and Security Act - President Obama's signature cap-and-trade plan that died in the Senate after Scott Brown was elected to the Senate seat previously held by the late Ted Kennedy, depriving Democrats of their supermajority there.

The CPS is currently in the public hearing phase, with a final rule expected within the next 12 months.

Cross-State Air Pollution Rule (CSAPR): The CSAPR requires 27 eastern states to significantly reduce emissions of sulfur dioxide (SO2) and nitrogen oxides (NOx) that cross state lines. While coal isn't explicitly singled out as a feedstock, its high contribution to the covered emissions causes coal-fired power plants to be affected. The impact of this regulation is relatively minimal compared to the other two regulations, with the EPA calculating that it will incur annual costs of $0.8-$1.6 billion.

The future of the CSAPR is highly uncertain at present, as the U.S. Court of Appeals for the D.C. Circuit ruled in August that the regulation exceeds the EPA's mandate to regulate emissions and must be revised.

Of the three regulations described above, one has been rejected by a federal circuit court, one is currently being reconsidered, and one has yet to be finalized. It is therefore premature to draw any significant conclusions regarding their impacts on the U.S. coal industry, as at least one (CSAPR) and possibly all three regulations will be relaxed before being implemented. Furthermore, the regulation with the broadest impact, the CPS, will only apply to new electric utility generating units. While existing units will need to be replaced at some point in the future due to age, these units can last decades (our analyses generally assume a 20 year life expectancy, and industry partners tell us that 30 years is more realistic). The CPS in particular, then, cannot be expected to put the coal industry out of business anytime soon.

We still have checks and balances

There's one final point that people forget when they forecast doom for the coal industry over the next four years: President Obama cannot spend an entire term ruling by decree. The Republicans hold a 41-vote majority in the House of Representatives, and the Democrats are at least five votes shy of a supermajority in the Senate. While the EPA operates within the executive branch and can theoretically act without the permission of Congress, in reality proposed EPA regulation is simply a presidential bargaining chip in negotiations with Congress. The Republicans have enough votes to block any and all legislation proposed by President Obama and his Democratic allies in Congress. If the Republicans want to see an EPA regulation weakened and are willing to engage in some horse-trading, then I fully expect an exchange to happen (for example, as part of a grand bargain to avert the coming "fiscal cliff").

Presidents tend to focus on their legacies during their second term, and if the only way President Obama can pass a signature piece of legislation is by gutting the above EPA regulations, then the regulation will be gutted. After all, the only reason we have the CPS in the first place is because the Republicans refused to play ball on cap-and-trade back in 2009.

Conclusion

Shares in coal mining companies have fallen sharply on the news of President Obama's election victory, largely due to concerns that the EPA now has free reign to impose crushing regulations on the thermal coal industry. The EPA is currently considering three major regulations that will significantly affect the coal industry. The future of each is uncertain at present, however, due to federal court rulings, internal revisions, and limiting regulatory language.

Furthermore, the 2012 election is not the 2008 election. The GOP, which is strongly opposed to environmental regulations on industry (particularly during a time of high unemployment), holds a strong majority in the House and enough seats in the Senate to deprive the Democrats of the supermajority necessary to pass most legislation. Between the two, the Republicans have the ability (and the demonstrated resolve) to prevent President Obama from passing any legislation for at least the next two, and possibly four, years. Even if the EPA regulations on the coal industry are strictly formulated and enforced, President Obama will likely use them as a bargaining chip if the Republicans are willing to negotiate on future legislation.

State of the Union

Spaeth 2/11 (Ryu, The Week, 2/11/2013, "State of the Union: Should Obama get combative with the GOP?", theweek.com/article/index/239942/state-of-the-union-should-obama-get-combative-with-the-gop)

Since winning re-election, Obama's approach toward Congress, and particularly the Republican Party, **has been notable for its combativeness**. Instead of huddling with lawmakers behind the scenes, Obama has **used his bully pulpit** and campaign-style events around the country to sell **his agenda on** everything from gun control to raising taxes. The strategy is to get popular opinion on his side, then force the GOP to compromise. And it appears Obama will turn to that playbook once again during his State of the Union address on Tuesday night, according to Glenn Thrush at Politico:

Emboldened by electoral victory and convinced the GOP is unwilling to cut deals, Obama plans to use his big prime-time address Tuesday night to issue another broad challenge at a Republican Party he regards as vulnerable and divided, Democrats close to Obama say.

When POLITICO asked how Obama is approaching the speech compared with his previous State of the Union addresses, a person close to the process of drafting the speech replied with a 2,500-year-old quote from Chinese military strategist Sun Tzu:

"Build your opponent a golden bridge to retreat across." [Politico]

The **most pressing issue facing Congress is the sequester**: $1.2 trillion in across-the-board spending cuts that are scheduled to go into effect at the end of the month. Obama has proposed replacing the sequester with a modest deficit-reduction package of spending cuts and new tax revenues, while Republican lawmakers demand that Obama commit only to deep cuts that economists say could stymie the economic recovery.

Obama will reportedly **sell his plan hard** on Tuesday, with the aim of putting the GOP, once again, in the uncomfortable position of defending policies that could hurt the economy in the short term. Furthermore, he plans to go on the road in the days following the State of the Union, holding rallies in North Carolina, Georgia, and Chicago to build public support for his proposals.

And that's not Obama's only attempt to circumvent the GOP. According to Zachary A. Goldfarb at The Washington Post:

President **Obama is considering a series of new executive actions aimed at working around a recalcitrant Congress**, including policies that could allow struggling homeowners to refinance their mortgages, provide new protections for gays and lesbians, make buildings more energy-efficient and toughen regulations for coal-fired power plants, according to people outside the White House involved in discussions on the issues…

These and other potential actions suggest that **Obama is likely to rely heavily on executive powers** to set domestic policy in his second term. One White House official said that while the president does not see the actions as substitutes for more substantial legislation, he also wants to move forward on top priorities. [The Washington Post]

Of course, **Obama's aggressive posture has its risks**. **The public may dislike his bare-knuckled, partisan approach, while executive orders could alienate Republicans on other issues for which legislative action is necessary**. However, the strategy has worked for him so far, at least on raising taxes on the wealthy and building broad support for certain gun control measures.

More importantly, liberal commentators say his policies reflect the wishes of an emerging majority that neither identifies with the GOP nor supports its positions, minimizing the potential for serious political fallout. As Greg Sargent at The Washington Post says:

If Obama makes good on the threat to be aggressive, **there will be a great deal of gnashing of teeth among Republicans** — and even neutral commentators — about his lack of "bipartisan outreach." But Obama's victory demonstrates that there is an emerging majority coalition of minorities, young voters, and college educated whites, especially women, that broadly shares his vision of governing. As Ron Brownstein recently detailed, this coalition is ascendant, and it is in Obama's interests to keep speaking directly to these voters. [The Washington Post]

#### Obama not spending capital on immigration

Aguilar, 2/11

(Latino Partnership for Conservative Principles, The great absentee on immigration

http://thehill.com/blogs/congress-blog/homeland-security/282219-the-great-absentee-on-immigration)

The president loves to pontificate about immigration, but the reality is that since his administration began, he hasn’t done anything to advance the discussion of immigration and help forge the bipartisan consensus necessary to address this important issue. He’s only made promises that he hasn’t kept. As a candidate back in 2008, he told Univision’s Jorge Ramos that “[w]hat I can guarantee is that we will have in the first year [of the presidency] an immigration bill that I strongly support.” Yet, he didn’t lift a finger to keep what Ramos called “la promesa de Obama”–Obama’s promise. The president went at it again a few days ago in Las Vegas where he outlined his immigration reform plan and basically restated “la promesa,” saying, "I’m here today because the time has come for common-sense, comprehensive immigration reform.” Yet, the president has done nothing to reach across the aisle to discuss his ideas on how to solve this tough issue. Since the election, in fact, **he hasn't called one Republican member to talk about immigration.** When asked in an interview why he hadn’t pro-actively reached out to Republicans, he seemed to indicate that the leadership has to come from Capitol Hill and not from him. “I am happy to meet with anybody, anytime, anywhere to make sure that this thing happens,” he said. “You know, the truth is oftentimes what happens is members of Congress prefer meeting among themselves to build trust between Democrats and Republicans there.” The question then is: how exactly is he leading and "working on the issue" if he's not talking to anyone on the other side? After all, the most important role of a president is of consensus builder. Presidents outline a vision to resolve specific problems the nation is facing and then work to bring legislators from both parties together. That’s what presidents have always done. A president doesn't lead or govern just by giving speeches. Congressman Luis Gutierrez, a Democrat from Illinois, and an unquestioned leader on immigration reform, just last month vented his frustration with the president in an interview with The Hill: “Who’s missing from these conversations is the president of the United States. When senators from both parties and members of the House are talking, when you have the Senate majority leader and Speaker Boehner both saying that this is an important priority. Who’s the one missing? The president.” Nonetheless, as Congressman Gutierrez mentioned, the good news is that congressional Democrats and Republicans early on, right after the elections, began working together on the issue and have achieved considerable progress. Just recently, after weeks of tough negotiations and discussions, a bipartisan group of senators came out with a framework that fully addresses the immigration challenges that our nation is facing, and that strikes an appropriate balance between the legitimate security concerns of the country and our tradition of being a welcoming nation. And a bipartisan working group in the House is expected to announce a similar blueprint in the next few weeks. The only party that has not been involved in these historic and productive conversations has been the White House. If the president is really being honest about wanting to get immigration reform done, then it would be better for him to quit for now the speaking tour, follow the example of congressional Democrats and Republicans, and work in earnest to expand the bipartisan consensus that has been achieved so far. Many are concerned, though, that the president will only use immigration for political advantage; that he will call on Americans to mobilize and express their support for immigration reform, but **won’t do anything himself to engage congressional leaders** in a serious conversation about the issue. If the president chooses this path, **he will surely disrupt the great progress that has been achieved so far by both parties** in Congress.

## renewables tradeoff

#### Industry collapse destroys CCS

Scott Segal, Electricity Reliability Coordinating Council Director, 6/25/12, ERCC Comments Submitted to EPA on the New Source Performance Standards for Power Plant Carbon Emissions, www.electricreliability.org/ercc-comments-submitted-epa-new-source-performance-standards-power-plant-carbon-emissions

The proposed rule is premised on the argument that a regulatory signal will be enough to induce the creation of commercially practical CCS. However, there is no substance behind the EPA’s faith in the ability for their regulations to spark substantial technological change. The Department of Energy (DOE) emphasized in a report on the status of CCS that the technology is over twenty years away from being commercially available.[6] The Interagency Task Force on Carbon Capture and Storage concluded that there are multiple barriers to commercial development, including the absence of a legal and regulatory framework, the lack of clarity on potential long-term liabilities, and market failures due to knowledge spillover.[7] Additionally, recent testimony before the House Energy and Commerce Committee has explained that a variety of factors make the EPA’s assumptions about the availability of CCS unrealistic, noting:

The CCS technology that EPA claims can be applied at coal-fired power plants is not technically feasible, has not been demonstrated, is not commercially available, and, even when it becomes available, it will not likely be affordable. The U.S. Department of Energy fossil energy budget for clean coal was reduced from $680 million in 2009 to $400 million in 2011 – a 41% decrease in funding. The U.S. Department of Energy budget for carbon capture and storage and power systems is proposed to decrease an additional 25% in 2013. If those problems aren’t enough, CCS also imposes a “parasitic load” on a coal-fired power station, meaning that CCS consumes power equal to or greater than approximately 30 percent of the power plant’s generation capacity.[8]

Furthermore, this proposal will actually slow the development of CCS, not stimulate development. By having unachievable emissions limits that prematurely require CCS, which is not commercially available, no new coal generation or CCS demonstrations with be developed because of the technology risk. Thus the cost of CCS will not come down and the technology will not advance.

#### US clean coal development spillsover to China—that’s key

Marc Gunter, Yale Environment 360, 5/31/12, To Love a Texas Coal Plant?, e360.yale.edu/feature/can\_environmentalists\_learn\_to\_love\_a\_texas\_coal\_plant/2535/

Maybe the most remarkable thing about the Summit plan is that it sailed through the Texas regulatory process with no opposition, at a time when groups including the Sierra Club were running hard-hitting campaigns to shut down existing plants and stop new ones. To be sure, none of the environmental groups has formally endorsed the plant. Bruce Nilles, director of the Sierra Club’s Beyond Coal initiative, said activists have more important battles to fight. “We’re not against demonstrating new technology,” he noted. More enthusiastic is David Frederick, an environmental lawyer who has worked for the Sierra Club and agreed to represent Summit Power in its effort to obtain an air permit. Why? By email, Frederick replied: “There is a Saudi Arabia of coal in the US, and, in the fullness of time, folks might use it. The Summit plant, if successful, would offer an incredibly low-CO2 way to use it.”

There’s another big reason why environmentalists favor efforts to develop carbon capture: China, and its vast reserves of coal. “If no other country in the world existed other than China, it would warrant the development of CCS [carbon capture and storage],” says David Hawkins, director of climate programs at NRDC. Jim Marston, who leads EDF’s Texas office and directs its national energy program, told me: “We probably don’t need coal plants in the U.S. But China and India are likely to build coal plants, and we need to demonstrate that there is much lower carbon technology out there at an affordable cost. In fact, we ought to develop that technology and sell it to them.”

Summit’s Texas project is one of three big coal plants under development in the U.S. that intend to capture carbon and use it to recover oil. Tenaska, a Nebraska-based energy company, wants to build a 600-MW plant near Sweetwater, Texas, that uses a post-combustion capture process to cut CO2 emissions by 85 to 90 percent. In Kemper, Mississippi, construction has begun on the Southern Co.’s 582-MW plant that will use coal gasification to reduce its emissions by about 65 percent. The Sierra Club has opposed those plants, citing water issues in Texas and land use, cost and pollution issues in Mississippi. Meanwhile, China, Canada, the Netherlands and the UK are developing their own large-scale CCS-EOR projects, according to an MIT CCS database.

If all these projects pan out, carbon-capture proponents contend, “clean coal” could emerge as a climate-friendly source of base-load electric power. Meantime, vast reserves of domestic oil in places like the Permian Basin could be unlocked by the newly produced CO2, easing pressures to drill in pristine areas like Alaska.

“It’s the beginning of a new industry,” says John Thompson of the Clean Air Task Force. “As soon as these projects go online, everything that’s in operation seems obsolete. These are game-changers.”

# 1AR

## 1ar – we meet

#### EPA agrees with us

Brownell et al 12

F. William Brownell, Henry V. Nickel, Norman W. Fichthorn, Allison D. Wood, Hunton & Williams LLP, 9/6/12, LASBRISASENERGYCENTER,LLC,etal., Petitioners, v. UNITED STATES ENVIRONMENTAL ) PROTECTION AGENCY and LISA PEREZ JACKSON, Administrator, United States Environmental Protection Agency, Respondents, insideEPA database

Specifically, the April 13 Notice explains that the proposed CO2 NSPS establishes an emission limit – 1,000 pounds of CO2 per gross output, measured in pounds per Megawatt-hour (“lb/MWh”) on a 12-operating-month annual average basis – that is based on a level of emission control achievable only by certain kinds of combustion turbines that burn natural gas, i.e., so-called natural gas combined cycle (“NGCC”)units.2 Coal-fired EGUs are subject either to(1)this1,000lb/MWh limit, which they cannot achieve using any demonstrated “system of emission reduction” that is available to such units; or (2) a 30-year-averaging compliance option for coal- fired EGUs that are “designed to allow installation and operation of a carbon capture and storage (CCS) system.” Proposed 40 C.F.R. § 60.5520(b), 77 Fed. Reg. at 22,436.

As to the first, EPA concedes that the 1,000 lb/MWh CO2 limit it has published cannot possibly be met by any EGUs that burn coal or other solid fossil fuels.3 As to the second, in publishing a “30-year averaging option” as a putative alternative to an unachievable standard, EPA did not even suggest that CCS is an “adequately demonstrated” control system within the meaning of 42 U.S.C. § 7411(a)(1), or that this option was adopted following evaluation of the other NSPS- standard-setting criteria that must be considered in selecting a “best” system from among “demonstrated” systems.4 Cf., e.g., Essex Chem. Corp. v. Ruckelshaus, 486 F.2d 427, 440-41 (D.C. Cir. 1973) (remanding EPA’s selection of lime slurry scrubbing as the “best system” of control where EPA had given insufficient consideration to the “counter productive environmental effects of the system”).

In sum, EPA in the April 13 Notice published a CO2 emission standard that applies to, but cannot be met by, any new coal-fired EGUs with any “adequately demonstrated” system of emission reduction available to such EGUs. As UARG explains in its Motion for Declaratory Relief, what EPA has published cannot be, as a matter of law, an NSPS for coal-fired EGUs, and cannot trigger a statutory obligation on EPA’s part – or provide any legal basis for EPA – to promulgate a final NSPS that would apply to CO2 emissions from coal-fired EGUs. UARG explains here why the April 13 Notice constitutes “other . . . nationally applicable . . . final action” over which this Court has subject-matter jurisdiction pursuant to 42 U.S.C. § 7607(b)(1), and why UARG’s challenge to that action is ripe for review.

#### Evaluating hypothetical possibility of compliance is unreasonable

William L. Wehrum, William L. Wehrum, Hunton & Williams LLP, 8/3/12, WHITE STALLION ENERGY CENTER, LLC, et al., Petitioners, v. ENVIRONMENTAL PROTECTION AGENCY, Respondent, BRIEF OF INDUSTRY AMICI CURIAE IN SUPPORT OF PETITIONERS, http://www.nam.org/~/media/2AA72BFA88F74E1B881D5BB46465B765/White\_Stallion\_Energy\_Center\_v\_EPA\_brief\_08032012.pdf

In other words, EPA’s floor methodology is based on what it believes is hypothetically “achievable” by some non-existent source, not what has been “achieved in practice” by the best actual source. And it does so without considering the beyond-the-floor factors as required under Section 112(d)(2). As EPA has explained elsewhere, such an approach is inconsistent with Section 112’s requirements: “[w]hen determining the existing source level of control, identification of a similar emission unit does not mean that the controls will automatically be applied to the MACT emission unit. Costs, non-air quality health and environmental impacts, and energy requirements should be used to assess the technologies ability to meet MACT criteria.” EPA 112(j) Guidelines at 3-19 to 3- 20 (emphasis added); see also 70 Fed. Reg. 59,402, 59,443 (Oct. 12, 2005) (rejecting a “straight emissions methodology” as creating “arbitrary” and “impermissible” results, including “a beyond the floor standard without consideration of the beyond the floor factors”).

C. MACT standards for new sources must be “achieved in practice,” not theoretically achievable by some nonexistent source.

Even if the statute is somehow deemed ambiguous, EPA’s pollutant-by- pollutant approach to setting the floor is unreasonable. “[A]chieved in practice” means more than the theoretical possibility of compliance from an imagined source:

It is reasonable to suppose that if an emissions standard is as stringent as “the emissions control that is achieved in practice” by a particular unit, then that particular unit will not violate the standard. This only results if “achieved in practice” is interpreted to mean “achieved under the worst foreseeable circumstances.”

Sierra Club v. EPA, 167 F.3d 658, 665 (D.C. Cir. 1999) (emphasis added). Instead of identifying the “best controlled similar source,” EPA established separate floors using emissions data from different sources representing the lowest emissions test result for each source, creating a set of standards reflecting the performance of a hypothetical source rather than the actual best controlled similar source.6 Id. (noting “use of the singular in the statutory language suggests” that EPA should consider the “unit with the best observed performance”). Yet, as Petitioners have demonstrated, EPA failed to demonstrate that even the multiple best controlled similar sources that it identified in setting the Utility MACT standards “will not violate” the standards that are based on the performance of those very units.

The need to identify a single source that has achieved the best control “in practice” is particularly important with respect to ensuring that the best controlled similar source “will not violate the standard” because controls installed to reduce one HAP may have antagonistic effects on other HAPs. EPA recognized this fact but ignored it in adopting its pollutant-by-pollutant approach to establishing MACT floors:

The EPA notes ... that if optimized performance for different HAP is not technologically possible due to mutually inconsistent control technologies (for example, if metals performance decreased if organics reduction is optimized), then this would have to be taken into account by the EPA in establishing a floor (or floors). The Senate Report indicates that if certain types of otherwise needed controls are mutually exclusive, the EPA is to optimize the part of the standard providing the most environmental protection. S. Rep. No. 228, 101st Cong. 1st sess. 168 (although, as noted, the bill accompanying this Report contained no floor provisions).

EPA-HQ-OAR-2009-0234-20126 at 433 (emphases added) (Ex. 6); see also id. at 447 (“The EPA is aware that the performance of one control technology can affect the performance of other in-stream control technologies.”).

It is unreasonable to interpret the CAA to allow for standards that purport to have been “achieved in practice,” but that will not be “achievable” by actual affected sources, much less the “best controlled similar source” used to set the standard. MACT floors are based on what has been “achieved in practice,” and “beyond-the-floor” standards are based on what is “achievable” considering cost and other factors. Compare 42 U.S.C. §7412(d)(2) and §7412(d)(3). The logic of the MACT floor is self-evident. The statute reasonably presumes new sources can replicate any emission level that has already been achieved by an existing source. Section 112 “thus embodies an assumption that standards based on achievability will be more stringent than ones based merely on past achievement.” Sierra Club v. EPA, 479 F.3d 875, 884 (D.C. Cir. 2007) (emphasis added) (Williams, J., concurring).

EPA’s current pollutant-by-pollutant methodology for establishing MACT floors for new sources results in floors that themselves are not achievable (i.e., the MACT floors are more stringent than “beyond-the-floor” standards could be). Hence, EPA has adopted an interpretation that is “demonstrably at odds with the intentions of its drafters.” Id. at 885. Judge Williams recognized that EPA must avoid such a result and “keep[] the relation between ‘achieved’ and ‘achievable’ in accord with common sense and the reasonable meaning of the statute.” Id. In adopting its current pollutant-by-pollutant approach to setting floors, EPA failed to adhere to this directive.

## 1ar – counter-interp

#### Feasibility determines energy production, so barriers are restrictions

Phil et al 12

Erik Phil and Filip Johnsson, Division of Energy Technology, Chalmers University of Technolog, and Duncan Kushnir and Bjorn Sanden, Division of Environmental Systems Analysis, Chalmers University of Technology, August 2012,Material constraints for concentrating solar thermal powerEnergy Volume 44, Issue 1, August 2012, Pages 944–954

The available solar flux on land is several thousand times higher than today's anthropogenic primary energy conversion and is thereby the dominant potential source for renewable energy. The global solar market has been rapidly growing for the past decade, but is still dwarfed when compared to conventional fossil fuel power. So far, the main barrier to large-scale deployment of solar power has been higher costs of electricity, because of relatively small volumes and less historical investments in technology development than presently dominant power generation technologies. Through development and continued strong growth, as solar technologies progress down the learning-curve, the cost per kWh of solar electricity is projected to reach parity with peaking power in main markets by about 2020–2030 [1], [2], [3] and [4].

So far, photovoltaic (PV) technologies have the largest share of the solar power market, but there is at present a relatively steady share of concentrating solar thermal power (CSP, also sometimes referred to as Solar Thermal Power, STP). CSP has undergone expansion from about 400 MW installed capacity in the early 2000s, to about 1.3 GW in 2011, with another 2.3 GW under construction and 32 GW in planning. The technology is today in commercial scale deployment in Spain, USA, Australia, Egypt and India [5], [6] and [7].

CSP plants use reflective surfaces to concentrate sunlight, providing heat for a thermodynamic cycle, such as a steam turbine. The physical principle is thus very different from photovoltaic panels, which use the photons in sunlight to excite electrons and create currents in solid state matter. These differences mean that CSP will differ significantly from PV regarding properties such as environmental impact and material constraints.

With projected strong growth in view, it is of interest to identify and quantify barriers to large-scale solar power deployment, other than cost as mentioned above. One such barrier is restrictions in either the reserves (extractable resources at a given cost) or annual supply of materials needed for solar power conversion devices. Such restrictions can imply increased raw material costs as the technologies grow, or even set absolute limits to how much that can be built. The recent study on CSP by the EASAC [2] has pinpointed a need to investigate the limits and potential bottlenecks and manufacturing constraints for CSP production.

#### Context is key

Haneman 59 J.A.D. is a justice of the Superior Court of New Jersey, Appellate Division. “Russell S. Bertrand et al. v. Donald T. Jones et al.,” 58 NJ Super. 273; 156 A.2d 161; 1959 N.J. Super, Lexis

HN4 In ascertaining the meaning of the word "restrictions" as here employed, it must be considered in context with the entire clause in which it appears. It is to be noted that the exception concerns restrictions "which have been complied with." Plainly, this connotes a representation of compliance by the vendor with any restrictions upon the permitted uses of the subject property. The conclusion that "restrictions" refer solely to a limitation of the manner in which the vendor may [\*\*\*14] use his own lands is strengthened by the further provision found in said clause that the conveyance is "subject to the effect, [\*\*167] if any, of municipal zoning laws." Municipal zoning laws affect the use of property.¶ HN5 A familiar maxim to aid in the construction of contracts is noscitur a sociis. Simply stated, this means that a word is known from its associates. Words of general and specific import take color from each other when associated together, and thus the word of general significance is modified by its associates of restricted sense. 3 Corbin on Contracts, § 552, p. 110; cf. Ford Motor Co. v. New Jersey Department of Labor and Industry, 5 N.J. 494 (1950). The [\*284] word "restrictions," therefore, should be construed as being used in the same limited fashion as "zoning."

#### Only contextual definition

Paul Crampton, Partner at Osler, Hoskin & Harcourt LLP, J.D., June 2009, MAJOR CHANGES TO THE COMPETITION ACT (CANADA) AND THE COMPETITION BUREAU'S ENFORCEMENT POLICIES, 8-5 Antitrust Src. 5

OUTPUT RESTRICTIONS. Paragraph 45(1)(c) applies to all agreements "to fix, maintain, control, prevent, lessen or eliminate the production or supply of the product." In the Bureau's view, in addition to garden-variety output agreements, this language captures agreements that reduce the quantity of products supplied to specific customers or groups of customers as well as agreements to permanently or temporarily close manufacturing facilities. n31

The Draft CC Guidelines are not particularly helpful regarding agreements that typically would not be considered to constitute hard-core cartel conduct but which could raise issues under this provision, such as standard-setting agreements and JV agreements that place restrictions on the production or supply of products to be produced by the JV.

## at: anell

#### Canada voted aff—the core point is that restrictions lowered production levels—that is our counter-interp

FTIS 89

Foreign Trade Information System, Canada: Import Restrictions On Ice Cream and Yogurt, Report of the Panel adopted at the Forty-fifth Session, Contracting Priorities, L/6568 - 36S/68, http://www.sice.oas.org/dispute/gatt/88icecrm.asp

25. Canada maintained that it effectively managed the supply of all domestically produced milk, through the provincial controls on fluid milk and the joint federal provincial market share quota system for industrial milk. It was an agreed interpretation of the General Agreement that "in interpreting the term "restrict" for the purposes of paragraph 2(c), the essential point was that the measures of domestic restrictions effectively keep output below the level which it would have attained in the absence of restrictions" (Havana reports, page 89). The Canadian programs restricted production to a level less than would be the case without the governmental controls. Farmers' participation in the supply management programmes was mandatory. Production quotas were ultimately established at the individual farm level, and the imposition of severe financial disincentives for overproduction assured the effectiveness of the system. The level of return received by producers for over-quota industrial milk was lower than the cash cost of production. The over-quota levy thus effectively restricted production above the quantitative level established by the quotas. Over the last decade there had been under-production of milk in some years, and over production in others. In the most recent six years, over-quota production of milk averaged only one per cent of total milk production. While it could not be directly demonstrated that production would be higher in the absence of the programmes, there was considerable indirect evidence that it would be. Each province fully utilized its Market Share Quota (MSQ) and applications for increased MSQs indicated that farmers had the capacity and willingness to produce more milk at the current prices if not restricted by the over-quota levy. Canada further cited recent econometric analyses, which indicated that milk production would be 31 to 39 per cent higher in the absence of restrictions.

#### Regulations can be restrictions

Martin Borowski, Faculty at Birmingham Law School, Vice-President of the British Section of the International Association for Philosophy of Law and Social Philosophy, 2003 “Religious Freedom as a Fundamental Human Right, a Rawlsian Perspective” in Pluralism and Law, Conference Proceedings” p. 58

Despite the problems that arise in distinguishing restrictions and regulations, noted above, one might introduce different criteria to justify both types of diminutions. One can distinguish formal and material criteria of justification. Rawls does not mention any formal criterion. Materially, a regulation has to respect the central range of applications of a basic liberty. But this applies to restrictions, too, and cannot give rise to any difference. Every diminution of a basic right or freedom, whether or not it is based on the content or the modality of a citizen’s action, is a restriction and, as such, has to be justified. The distinction between restrictions and regulations is expendable.

## 1ar overlimit

No OCS restrictions

Kathleen Gramp and Jeff LaFave, CBO Budget Analysis Division, August 2012, http://www.cbo.gov/sites/default/files/cbofiles/attachments/08-09-12\_Oil-and-Gas\_Leasing.pdf

Other than the temporary ban on leasing in the eastern Gulf of Mexico, there currently are no statutory restrictions on OCS leasing. Decisions about leasing are made administratively—in consultation with industry and the states—for five-year periods. Leases cannot be offered for areas that are not included in a five-year plan, but the available regions may change whenever a new plan is adopted. The next plan is expected to go into effect in August 2012 and will extend for five years unless a future Administration chooses to restart the process before that plan expires.

## at: sinha

#### Says a restriction isn’t a prohibition—WTF?

Sinha 6

S.B. Sinha is a former judge of the Supreme Court of India. “Union Of India & Ors vs M/S. Asian Food Industries,” Nov 7, http://webcache.googleusercontent.com/search?q=cache:http://www.indiankanoon.org/doc/437310/

There would seem to be no occasion to discuss whether or not the Railroad Commissioners had the power and authority to make the order, requiring the three specified railroads running into the City of Tampa to erect a union passenger station in such city, which is set out in the declaration in the instant case and which we have copied above. [\*\*\*29] It is sufficient to say that under the reasoning and the authorities cited in State v. Atlantic Coast Line R. Co., 67 Fla. 441, 458, 63 South. Rep. 729, 65 South. Rep. 654, and State v. Jacksonville Terminal [\*631] Co., supra, it would seem that HN14the Commissioners had power and authority. The point which we are required to determine is whether or not the Commissioners were given the authority to impose the fine or penalty upon the three railroads for the recovery of which this action is brought. In order to decide this question we must examine Section 2908 of the General Statutes of 1906, which we have copied above, in the light of the authorities which we have cited and from some of which we have quoted. It will be observed that the declaration alleges that the penalty imposed upon the three railroads was for the violation of what is designated as "Order No. 282," which is set out and which required such railroads to erect and complete a union depot at Tampa within a certain specified time. If the Commissioners had the authority to make such order, it necessarily follows that they could enforce a compliance with the same by appropriate proceedings in the courts, but [\*\*\*30] it does not necessarily follow that they had the power and authority to penalize the roads for a failure to comply therewith. That is a different matter. HN15Section 2908 of the General Statutes of 1906, which originally formed Section 12 of Chapter 4700 of the Laws of Florida, (Acts of 1899, p. 86), expressly authorizes the imposition of a penalty by the Commissioners upon "any railroad, railroad company or other common carrier doing business in this State," for "a violation or disregard of any rate, schedule, rule or regulation, provided or prescribed by said commission," or for failure "to make any report required to be made under the provisions of this Chapter," or for the violation of "any provision of this Chapter." It will be observed that the word "Order" is not mentioned in such section. Are the other words used therein sufficiently comprehensive to embrace an order made by the Commissioners, such as the one now under consideration? [\*632] It could not successfully be contended, nor is such contention attempted, that this order is covered by or embraced within the words "rate," "schedule" or "any report,' therefore we may dismiss these terms from our consideration and [\*\*\*31] direct our attention to the words "rule or regulation." As is frankly stated in the brief filed by the defendant in error: "It is admitted that an order for the erection of a depot is not a 'rate' or 'schedule' and if it is not a 'rule' or 'regulation' then there is no power in the Commissioners to enforce it by the imposition of a penalty." It is earnestly insisted that the words "rule or regulation" are sufficiently comprehensive to embrace such an order and to authorize the penalty imposed, and in support of this contention the following authorities are cited: Black's Law Dictionary, defining regulation and order; Rapalje & Lawrence's Law Dictionary, defining rule; Abbott's Law Dictionary, defining rule; Bouvier's Law Dictionary, defining order and rule [\*\*602] of court; Webster's New International Dictionary, defining regulation; Curry v. Marvin, 2 Fla. 411, text 515; In re Leasing of State Lands, 18 Colo. 359, 32 Pac. Rep. 986; Betts v. Commissioners of the Land Office, 27 Okl. 64, 110 Pac. Rep. 766; Carter V. Louisiana Purchase Exposition Co., 124 Mo. App. 530, 102 S.W. Rep. 6, text 9; 34 Cyc. 1031. We have examined all of these authorities, as well as those cited by the [\*\*\*32] plaintiffs in error and a number of others, but shall not undertake an analysis and discussion of all of them. The Central Government announced its Foreign Trade Policy in exercise of its power conferred upon it under Section 5 of the 1992 Act by a notification dated 7th April, 2006. The said policy was issued in public interest. Chapter 1A of the said policy also provides for legal framework. Clause 1.5 thereof reads as under: "1.5 In case an export or import that is permitted freely under this Policy is subsequently subjected to any restriction or regulation, such export or import will ordinarily be permitted notwithstanding such restriction or regulation, unless otherwise stipulated, provided that the shipment of the export or import is made within the original validity of an irrevocable letter of credit established before the date of imposition of such restriction." Clause 2.4 of the policy empowers the Director General of Foreign Trade to specify the procedures required to be followed by an exporter in any case or class of cases for the purpose of implementing the provisions of the 1992 Act, the Rules and the Orders made thereunder and the said policy. Such procedures were to be included in the Handbook which would be published by means of a public notice and such procedures may in the like manner be amended from time to time. It was stated: "The Handbook (Vol.1) is a supplement to the Foreign Trade Policy and contains relevant procedures and other details. The procedure of availing benefits under various schemes of the Policy are given in the Handbook (Vol.1)" The Handbook of Procedures which inter alia supplements the Foreign Trade Policy was also issued on 7th April, 2006 upon giving a public notice therefor. It contains nine chapters. Chapter 9 comprises of miscellaneous matters. Paragraph 9.12 lays down the manner in which date of shipment/ dispatch of exports would be reckoned. It inter alia provides: "However, wherever the Policy provisions have been modified to the disadvantage of the exporters, the same shall not be applicable to theconsignments already handed over to the Customs for examination and subsequent exports upto the date of the Public Notice. Similarly, in such cases where the goods are handed over to the customs authorities before the expiry of the export obligation period but actual Exports take place after expiry of the export obligation period, such exports shall be considered within the export obligation period and taken towards fulfillment of export obligation." HIGH COURT JUDGMENTS Whereas the Gujarat High Court invoking Paragraph 9.12 of the Handbook and having regard to the fact that the customs authorities cleared and permitted the loading of the goods and moreover the bill of lading had also been filed, opined that the respondents were entitled to export the goods in terms of the policy decision despite the said notification dated 27.06.2006, the Delhi High Court declared the notification dated 4.07.2006 as ultra vires. SUBMISSIONS Mr. Vikas Singh, learned Additional Solicitor General for Union of India, has raised the following contentions: (i) Clause 1.5 of the Foreign Trade Policy would not apply to a case where the export of goods are totally being prohibited and not merely regulated or restricted. (ii) Having regard to the definition of export and in particular the provision of Section 51 of the 1962 Act, the procedures laid down thereunder as envisaged under Sections 16 and 39 must be complied and they having not been complied with, the impugned judgment of Gujarat High Court cannot be sustained. (iii) Although the notification dated 4.07.2006 was wrongly worded but as thereby benefit was sought to be conferred on those who were not aware of the ban before 22.06.2006 and had opened letters of credit prior thereto were exempted from operation of the said notification, the order of prohibition shall be effective even if a concluded contract had been arrived at for export of goods. The learned counsel for the respondents, on the other hand, submitted: (i) In view of the Foreign Trade Policy issued by the Central Government under Section 5 of the 1992 Act, the amendments carried out therein shall only have a prospective effect and not a retrospective effect. (ii) As the Handbook of Procedures lays down supplemental provisions to the Foreign Trade Policy issued by the Director General of Foreign Trade in exercise of its power under the 1992 Act, the purported prohibition issued under the notification dated 27.06.2006 would not apply to a case where the formalities contained in Section 51 of the 1962 Act had been complied with. (iii) Clause 1.5 of the Foreign Trade Policy having provided for protection to those who were holders of letter of credit, the retrospective effect purported to have been given in terms of the notification dated 4.07.2006 was unconstitutional being hit by Article 14 of the Constitution of India. Would the terms 'restriction' and 'regulation' used in Clause 1.5 of the Foreign Trade Policy include prohibition also, is one of the principal questions involved herein. A citizen of India has a fundamental right to carry out the business of export, subject, of course to the reasonable restrictions which may be imposed by law. Such a reasonable restriction was imposed in terms of the 1992 Act. The purport and object for which the 1992 Act was enacted was to make provision for the development and regulation of foreign trade inter alia by augmenting exports from India. While laying down a policy therefor, the Central Government, however, had been empowered to make provision for prohibiting, restricting or otherwise regulating export of goods. Section 11 of the 1962 Act also provides for prohibition. When an order is issued under Sub-section (3) of Section 3 of the 1992 Act, the export of goods would be deemed to be prohibited also under Section 11 of the 1962 Act and in relation thereto the provisions thereof shall also apply. Indisputably, the power under Section 3 of the 1992 Act is required to be exercised in the manner provided for under Section 5 of the 1992 Act. The Central Government in exercise of the said power announced its Foreign Trade Policy for the years 2004-2009. It also exercised its power of amendment by issuing the notification dated 27.06.2006. Export of all commodities which were not earlier prohibited, therefore, was permissible till the said date. The implementation of the said policy was to be made in terms of the procedures laid down in the Handbook. The provisions of the 1992 Act, the Foreign Trade Policy and the procedures laid down thereunder, thus, provide for a composite scheme. In implementing the said provisions of the scheme, in the event an order of prohibition, restriction or regulation is passed, the provisions of the 1962 Act mutatis mutandis would apply. Section 50 of the 1962 Act provides for entry of goods for exportation. It enjoins a duty upon an exporter to make entry thereof by presenting a shipping bill to the proper officer in a vessel or aircraft. On receipt of the shipping bill, the proper officer has to arrive at its satisfaction that (i) the export of goods is not prohibited; (ii) the exporter has paid the duty assessed thereon and charges payable thereunder in respect of the said goods. Once he arrives at the said satisfaction, he will make an order permitting clearance and loading of the goods for exportation. The scheme of the Foreign Trade Policy postulates that when the policy provisions are amended which are disadvantageous to the exporters, the modification would not be attracted. It furthermore lays down that although actual export had not taken place but in the event goods are handed over to the custom authorities before expiry of the export obligation period but actual export takes place after expiry thereof, the same shall be considered within the export obligation and taken towards fulfillment of such obligation. Section 51 of the 1962 Act, therefore, does not say that unless and until the shipment crosses the international border, the notification imposing prohibition shall be attracted. Different stages for the purpose of the said Act would, therefore, be different. For interpretation of the provisions of the 1992 Act and the policy laid down as also the procedures framed thereunder vis-`-vis the provisions of the 1962 Act, the rate of custom duty has no relevance. What would be relevant for the said purpose would be actual permission of the proper officer granting clearance and loading of the goods for exportation. As soon as such permission is granted, the procedures laid down for export must be held to have been complied with. Strong reliance has been placed by the learned Additional Solicitor General upon a decision of this Court in Principal Appraiser (Exports), Collectorate of Customs and Central Excise and Others v. Esajee Tayabally Kapasi, Calicut [(1995) 6 SCC 536] wherein this Court was concerned with the change in the rate of duty and in that context the construction of Sections 16(1), 39 and 51 of the 1962 Act fell for its consideration. In relation to the rate of duty it was held that the date of "entry outwards" would be the relevant date with reference to which the rate of custom duty on the exported duty is to be worked out. In that case, the goods were cleared for a vessel known as S.S. Neils Maersk. However, for want of space therein goods were shut out. Necessary space for exporting those were secured in another vessel named S.S. P'Xilas wherefor fresh shipping bill was filed on 9.08.1996. It was in the peculiar fact of that case, this Court opined that the rate of export duty prevalent as on 9.08.1996 would be leviable stating: "...It becomes thus clear that the shipping bill as well as the ultimate entry outwards for the goods concerned sought to be exported must have reference to the vessel through which such goods are to be exported. Therefore, before any goods are exported out of Indian territorial waters which vessel is to be utilised for exporting them, becomes a relevant consideration. The shipping bill concerned has to be lodged with reference to a given vessel which is to carry these goods out of the Indian territorial waters and in connection with such a vessel the entry outwards has to be obtained and only thereafter the master of the vessel should allow the loading of the goods for being exported out of India. The rate of duty payable on such exported goods would, therefore, be the rate of duty that was prevalent at the time when entry outwards through a given vessel is obtained. There cannot be an entry outwards in connection with a vessel which does not actually carry such goods for the purpose of export. In the facts of the present case, therefore, conclusion is inevitable that earlier entry outwards for the vessel S.S. Neils Maersk was an ineffective entry outwards for the purpose of computing the rate of customs duty of export on the goods in question. Only the subsequent entry outwards for vessel S.S. PXilas which actually carried these goods out of Indian territorial waters and effected the export of these goods was the only relevant and operative entry outwards and the rate of duty prevalent on the date of the said entry outwards for vessel S.S. PXilas was the only effective rate of duty payable on the export of these goods. Consequently it must be held that the respondent has made out no case for refund of Rs 4444.96 for which he lodged the claim." We may notice that a Constitution Bench of this Court in Gangadhar Narsingdas Agarwal v. P.S. Thrivikraman and Another [(1972) 3 SCC 475] opined that Section 16 of the 1962 Act speaks of the fictional date only in relation to the order of date of entry outwards of the vessel, but the issue with which we are concerned did not arise therein. The fundamental and statutory right of an exporter, in that case, were not sought to be taken away. Esajee Tayabally Kapasi (supra), therefore, has no application in the instant case. Reliance has also been placed on Union of India and Others v. M/s. C. Damani & Co. and Others [1980 (Supp) SCC 707] wherein the vires of Exports (Control) Fifteenth Amendment Order, 1979 prohibiting pre-ban commitments was in question. It was held that there was no ground to discredit the policy. The question raised therein, viz., the effect of failure to honour foreign contracts owing to change in law imposing ban on goods covered thereby whether would attract the plea of frustration of contract was not decided stating: "...This contention may have to be considered here or elsewhere, but, if we may anticipate our conclusion even here, this question is being skirted by us because the kismet of this case can be settled on other principles. The discipline of the judicial process forbids decisional adventures not necessary, even if desirable." **----NU Card starts---**We may, however, notice that M/s. C. Damani (supra) was explained by this Court in State Trading Corporation of India Ltd. v. Union of India and Others [1994 Supp (3) SCC 40]. It is not necessary for us to advert thereto as the said judgment has no application in the instant case. We are, however, not oblivious of the fact that in certain circumstances regulation may amount to prohibition. But, ordinarily the word "regulate" would mean to control or to adjust by rule or to subject to governing principles [See U.P. Cooperative Cane Unions Federations v. West U.P. Sugar Mills Association and Others [(2004) 5 SCC 430] whereas the word "prohibit" would mean to forbid by authority or command. The expressions "regulate" and "prohibit" inhere in them elements of restriction but it varies in degree. The element of restriction is inherent both in regulative measures as well as in prohibitive or preventive measures. We may, however, notice that this Court in State of U.P. and Others v. M/s. Hindustan Aluminium Corpn. and others [AIR 1979 SC 1459] stated the law thus: "It appears that a distinction between regulation and restriction or prohibition has always been drawn, ever since Municipal Corporation of the City of Toronto v. Virgo. Regulation promotes the freedom or the facility which is required to be regulated in the interest of all concerned, whereas prohibition obstructs or shuts off, or denies it to those to whom it is applied. The Oxford English Dictionary does not define regulate to include prohibition so that if it had been the intention to prohibit the supply, distribution, consumption or use of energy, the legislature would not have contended itself with the use of the word regulating without using the word prohibiting or some such word, to bring out that effect." **---NU Card ends--**However, in Talcher Municipality v. Talcher Regulated Market Committee and Another [(2004) 6 SCC 178], it was opined that regulation is a term which is capable of being interpreted broadly and it may amount to prohibition. [See also K. Ramanathan v. State of Tamil Nadu and another, AIR 1985 SC 660] The terms, however, indisputably would be construed having regard to the text and context in which they have been used. Section 3(2) of the 1992 Act uses prohibition, restriction and regulation. They are, thus, meant to be applied differently. Section 51 of the 1962 Act also speaks of prohibition. Thus, in terms of the 1992 Act as also the policy and the procedure laid down thereunder, the terms are required to be applied in different situations wherefor different orders have to be made or different provisions in the same order are required therefor.

## A2 tech no solve

#### Production restrictions just cause export to China

Elisabeth Rosenthal, NYTimes, 11/21/10, Nations That Debate Coal Use Export It to Feed China’s Need, www.nytimes.com/2010/11/22/science/earth/22fossil.html?pagewanted=all&\_r=0

Even as developed countries close or limit the construction of coal-fired power plants out of concern over pollution and climate-warming emissions, coal has found a rapidly expanding market elsewhere: Asia, particularly China. At ports in Canada, Australia, Indonesia, Colombia and South Africa, ships are lining up to load coal for furnaces in China, which has evolved virtually overnight from a coal exporter to one of the world’s leading purchasers. The United States now ships coal to China via Canada, but coal companies are scouting for new loading ports in Washington State. New mines are being planned for the Rockies and the Pacific Northwest. Indeed, some of the world’s more environmentally progressive regions are nascent epicenters of the new coal export trade, creating political tensions between business and environmental goals. Traditionally, coal is burned near where it is mined — particularly so-called thermal or steaming coal, used for heat and electricity. But in the last few years, long-distance international coal exports have been surging because of China’s galloping economy, which now burns half of the six billion tons of coal used globally each year. As a result, not only are the pollutants that developed countries have tried to reduce finding their way into the atmosphere anyway, but ships chugging halfway around the globe are spewing still more. And the rush to feed this new Asian market has helped double the price of coal over the past five years, leading to a renaissance of mining and exploration in many parts of the world. “This is a worst-case scenario,” said David Graham-Caso, spokesman for the Sierra Club, which estimates that its “Beyond Coal” campaign has helped to block 139 proposed coal plants in the United States over the last few years. “We don’t want this coal burned here, but we don’t want it burned at all. This is undermining everything we’ve accomplished.” In Australia, environmental groups have repeatedly halted trainloads of coal headed to the export docks at Newcastle this fall, and flotillas of kayaking protesters have delayed cargo pickups by Asia-bound coal ships. Julia Gillard, Australia’s newly elected prime minister, promised during her campaign to “put a price on carbon” — in other words, make companies pay in some way for excessive carbon dioxide emissions. But environmentalists say that such laws will be meaningless if the country continues its nascent coal rush and “exports global warming to the world,” as one group, Rising Tide Australia, puts it. This summer an Australian company signed a $60 billion contract with a state enterprise, China Power International Development, to supply coal to Chinese power stations beginning in 2013 from a vast complex of mines, called China First, to be built in the Australian outback. It was Australia’s largest export contract ever, the company said. The deal points to the love-hate relationship many wealthier countries have with coal: while environmental laws have made it progressively harder to build new coal-fired power plants, they do not restrict coal mining to the same extent. That is partly because emissions accounting standards focus on where a fuel is burned, not where it is dug up; because the coal trade is a lucrative business; and because the labor-intensive mining industry creates jobs. Such benefits are particularly hard to forgo in the midst of a recession. In the last two years, “There has been an awful lot of mining development, and much of it is based on the potential of these new markets,” said David Price, director of the global steam coal advisory service at IHS-Cera, a global energy consultancy. Vic Svec, senior vice president of Peabody Energy, the world’s largest private coal company, said it was “planning to send larger and larger amounts of coal” to China. “Coal is the fastest-growing fuel in the world and will continue to be largely driven by the enormous appetite for energy in Asia,” he said.

#### Innovation is limitless

Robert **Bradley** Jr. **12**, CEO and founder of the Institute for Energy Research; an adjunct scholar of the Cato Institute and the Competitive Enterprise Institute, a visiting fellow of the Institute of Economic Affairs, a senior research fellow of the Center for Energy Economics at the University of Texas at Austin, “On Sustainable Energy (Part I)”, January 9, <http://www.masterresource.org/2012/01/sustainable-energy-i/#more-18083>

Feared mineral depletion and the false allure of renewables have colored energy economics and public policy from the beginning. W. S. Jevons pessimistically calculated the coming end of Britain’s coal abundance. Samuel Insull, a resource pessimist, feared the decline of coal supplies and saw natural gas as but a fleeting respite from the past and future of gasified coal. In 1981, leaders of the natural gas industry voiced their pessimism about future supply and prices. “Domestic oil and gas will never be in an oversupply position,” said Jack Bowen of Transco. “Planning is going forward for the day when the market may require a versatile substitute fuel for natural gas,” stated Robert Herring of Houston Natural Gas. Both gentlemen, heading the largest interstate and intrastate gas pipeline systems in America, respectively, would be proved wrong within a year. “Peak gas” fears, not only running-out-of-oil concerns, are not new. Expanding ‘Depletable’ Resources The paradox of growing exhaustible or depleting minerals—such as oil, natural gas, and coal—can be explained in terms of improving knowledge and expanding capital. “Knowledge is truly the mother of all resources,” Erich Zimmermann concluded. Julian Simon called human ingenuity the “ultimate resource,” a nondepletable, expansive resource. “Discoveries, like resources, may well be infinite: the more we discover, the more we are able to discover,” Simon said. This was the opposite of a “closed system,” Simon found, allowing “human beings … [to] create more than they destroy.”

## coal da---1ar – dedev no solve

#### Any reduction is only short-term

Dickinson 8

Pete Dickinson, Socialist Alternative, 12/24/2008, "Will the Downturn Save the Planet? — A Green New Deal? ," http://www.socialistalternative.org/news/article19.php?id=981

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

Warming won’t cause extinction

Barrett, professor of natural resource economics – Columbia University, ‘7

(Scott, Why Cooperate? The Incentive to Supply Global Public Goods, introduction)

First, climate change does not threaten the survival of the human species.5 If unchecked, it will cause other species to become extinction (though biodiversity is being depleted now due to other reasons). It will alter critical ecosystems (though this is also happening now, and for reasons unrelated to climate change). It will reduce land area as the seas rise, and in the process displace human populations. “Catastrophic” climate change is possible, but not certain. Moreover, and unlike an asteroid collision, large changes (such as sea level rise of, say, ten meters) will likely take centuries to unfold, giving societies time to adjust. “Abrupt” climate change is also possible, and will occur more rapidly, perhaps over a decade or two. However, abrupt climate change (such as a weakening in the North Atlantic circulation), though potentially very serious, is unlikely to be ruinous. Human-induced climate change is an experiment of planetary proportions, and we cannot be sur of its consequences. Even in a worse case scenario, however, global climate change is not the equivalent of the Earth being hit by mega-asteroid. Indeed, if it were as damaging as this, and if we were sure that it would be this harmful, then our incentive to address this threat would be overwhelming. The challenge would still be more difficult than asteroid defense, but we would have done much more about it by now.

## econ impact

#### Best studies prove growth solves conflict

Jedidiah **Royal 10**, Director of Cooperative Threat Reduction at the U.S. Department of Defense, “Economic Integration, Economic Signalling And The Problem Of Economic Crises”, in Economics of War and Peace: Economic, Legal and Political Perspectives, ed. Goldsmith and Brauer, p. 213-215

Second, on a dyadic level. Copeland's (1996. 2000) theory of trade expectations suggests that 'future expectation of trade' is a significant variable in understanding economic conditions and security behaviour of states. He argues that interdependent states are likely to gain pacific benefits from trade so long as they have an optimistic view of future trade relations. However, if the expectations of future trade decline, particularly for difficult to replace items such as energy resources, the likelihood for conflict increases, as states will be inclined to use force to gain access to those resources. Crises could potentially be the trigger for decreased trade expectations either on its own or because it triggers protectionist moves by interdependent states.4 Third, others have considered the link between economic decline and external armed conflict at a national level. Blomberg and Hess (2002) find a strong correlation between internal conflict and external conflict, particularly during periods of economic downturn. They write, The linkages between internal and external conflict and prosperity are strong and mutually reinforcing. Economic conflict tends to spawn internal conflict, which in turn returns the favour. Moreover, the presence of a recession lends to amplify the extent to which international and external conflicts self-rein force each other. (Blombcrj! & Hess. 2002. p. 89) Economic decline has also been linked with an increase in the likelihood of terrorism (Blomberg. Hess. & Weerapana, 2004). which has the capacity to spill across borders and lead to external tensions. Furthermore, crises generally reduce the popularity of a sitting government. "Diversionary theory" suggests that, when facing unpopularity arising from economic decline, sitting governments have increased incentives to fabricate external military conflicts to create a 'rally around the flag' effect. Wang (1996), DeRouen (1995), and Blombcrg. Mess, and Thacker (2006) find supporting evidence showing that economic decline and use of force are at least indirectly correlated. Gelpi (1997), Miller (1999). and Kisangani and Pickering (2009) suggest that the tendency towards diversionary tactics arr greater for democratic states than autocratic states, due to the fact that democratic leaders are generally more susceptible to being removed from office due to lack of domestic support. DeRouen (2000) has provided evidence showing that periods of weak economic performance in the United States, and thus weak Presidential popularity, are statistically linked to an increase in the use of force.

## mindset shift 2ac

#### No mindset shift

Matthew **Lockwood 11**, previously Associate Director for Climate, Transport and Energy at the Institute for Public Policy Research, “The Limits to Environmentalism”, March 25, <http://politicalclimate.net/2011/03/25/the-limits-to-environmentalism-4/>

This brings us neatly finally to the third problem with PWG: politics. Jackson does have some discussion of the need for our old favourite “political will” towards the end of the book, and there are some examples of concrete ideas (e.g. shorter working week, ban advertising aimed at children), but there is basically no political strategy. Indeed, the argument is framed in terms of the need for “social and economic change” and “governance”, but not politics at all. The key question is how we are supposed to get from where we are to where he wants us to be. Jackson acknowledges that at the moment, many people want growth (or more precisely, economic stability) and so demand it of politicians, who then have a political incentive to deliver it. The quandary (not really acknowledged) is which strategy to adopt in this situation. Do you first reshape the economy to deliver economic stability without growth (e.g. by a shorter working week), which then demonstrates to people socially and politically that growth isn’t necessary for a good life, or do you first have to bring about major social change, moving people away from consumerism, as a precondition for transforming the economy and making the end of growth politically feasible? The discussion in chapter 11 of the book sort of implies that Jackson is thinking in terms of the latter route, but it actually has no strategy. He lays out (some quite conventional, even dare I say it, already proposed by economists) policies like carbon taxation and the aforementioned shorter working week but there is nothing on political narrative. The closest we get to a strategy for social transformation is banning advertising aimed at children (also a theme of Tom Crompton’s) and policies to drive greater durability of products. A counterview might be that all these changes are needed, and it doesn’t matter so much what happens first, that they all reinforce each other etc etc. But I don’t think that’s enough. The political party in the UK that comes closest to offering the Jackson vision is the Green Party. They got 1% of the popular vote in the 2010 general election, and one MP. What stronger evidence can there be that the vision on its own is not enough? A final point takes us back to equity (see previous post), but this time within rich countries. Certainly within the US and the UK, a large group of people in the low-to-middle part of the income distribution have seen their real incomes stagnate or fall over the last decade, as the rich have got richer. Telling this “squeezed middle” that economic growth is to end is not going to go down well unless there is a credible strategy for redistribution. That’s why a good initial step for a more sustainable economy might be a set of good old-fashioned social democratic policies on tax and spend. Prosperity without Growth raises some very important questions, and Tim Jackson shows how tight a squeeze we are in. But the book leaves some even more crucial questions hanging. Of course ending economic growth in rich countries would make a solution to ecological limits a bit easier, but this would play only a small role. In the absence of radical technological change, only serious “de-growth”, what Kevin Anderson and Alice Bows call “planned economic recession” would be sufficient to bring about the cut in emissions needed. With rapid growth in poor countries this conclusion is even stronger. So what we should be focusing on is achieving that technological change. Yes, it hasn’t materialised so far, but nor have the policies for low carbon innovation we need to produce it – like Gandhi’s Western civilisation, the low carbon revolution would be a good idea. And yes, getting those policies in place will require political effort. But that effort will be as nothing compared with the political challenge of replacing capitalism with a new steady state system either lacking innovation or with a disappearing working week. Perhaps the most fundamental, indeed philosophical issue here is that, despite the fact that Jackson has made a good effort to make an argument about limits into an argument about quality of life, his underlying message is (pace Obama): “No, we can’t”. But beyond the environmentalist camp, this message will not work. In the face of the biggest collective challenge that humanity has faced, we need a narrative that has the human potential to solve problems, and overcome apparently unbeatable odds, at its heart.

## AT: Terrorism – Nuclear

#### No threat – weak leadership and no recent attacks

**Zenko and Cohen 12**, \*Fellow in the Center for Preventive Action at the Council on Foreign Relations, \*Fellow at the Century Foundation, (Micah and Michael, "Clear and Present Safety," March/April, Foreign Affairs, www.foreignaffairs.com/articles/137279/micah-zenko-and-michael-a-cohen/clear-and-present-safety

 NONE OF this is meant to suggest that the United States faces no major challenges today. Rather, the point is that the problems confronting the country are manageable and pose minimal risks to the lives of the overwhelming majority of Americans. None of them -- separately or in combination -- justifies the alarmist rhetoric of policymakers and politicians or should lead to the conclusion that Americans live in a dangerous world.

Take terrorism. Since 9/11, no security threat has been hyped more. Considering the horrors of that day, that is not surprising. But the result has been a level of fear that is completely out of proportion to both the capabilities of terrorist organizations and the United States' vulnerability. On 9/11, al Qaeda got tragically lucky. Since then, the United States has been preparing for the one percent chance (and likely even less) that it might get lucky again. But al Qaeda lost its safe haven after the U.S.-led invasion of Afghanistan in 2001, and further military, diplomatic, intelligence, and law enforcement efforts have decimated the organization, which has essentially lost whatever ability it once had to seriously threaten the United States.

According to U.S. officials, al Qaeda's leadership has been reduced to two top lieutenants: Ayman al-Zawahiri and his second-in-command, Abu Yahya al-Libi. Panetta has even said that the defeat of al Qaeda is "within reach." The near collapse of the original al Qaeda organization is one reason why, in the decade since 9/11, the U.S. homeland has not suffered any large-scale terrorist assaults. All subsequent attempts have failed or been thwarted, owing in part to the incompetence of their perpetrators. Although there are undoubtedly still some terrorists who wish to kill Americans, their dreams will likely continue to be frustrated by their own limitations and by the intelligence and law enforcement agencies of the United States and its allies.

## k-waves 2ac

#### No theoretical or empirical defense of K-Waves

North 9, Austrian School economic analyst, PhD in History, edited the financial newsletter, Remnant Review, formerly served as Research Assistant for Congressman Ron Paul (R-TX). (Gary, “The Myth of the Kondratieff Wave,” June 27, <http://www.lewrockwell.com/north/north725.html>)

Pugsley = American conservative libertarian political and economics commentator, lecturer, and New York Times bestselling author

Kondratieff had at most two and a half cycles in his two papers. That number was available for only four data series. Of the 36 data series, he could find evidence of cycles in only 11 of them. The monetary series and the real series correlated in only 11 of 21 series, all short.

Pugsley then cited extensively from an article by C. Van Ewijk of the University of Amsterdam (The Economist, Nov. 3, 1981). Van Ewijk noted that Kondratieff followed no consistent methodology in choosing the types of trend curves that he selected for different data sources. Kondratieff used various statistical techniques to smooth the curves to make them appear as long waves. "In case after case, no wave could be identified." He used price data, but these did not correlate with the actual economic output of the four economies that he studied.

Then the waves that he presented were further "idealized" by whoever created the chart that has circulated ever since. Pugsley noted: "The upward movement of prices from 1933 to the present has already spanned fifty years, which is supposed to be the average length of a complete cycle."

So far, price inflation has extended for about 75 years. Yet the deflationists are still predicting long-term, severe price deflation, and some of them invoke the Kondratieff wave to prove their assertion. Pugsley concluded:

In not one case does the evidence corroborate the existence of the wave. Prices and output are not directly related – if anything they are inversely related. The forty-five to sixty-year period of the wave is only partially evident in the nineteenth century, and then only in the price series. Price moves in the twentieth century do not correspond to this periodicity, as claimed by long-wave proponents. There is absolutely no statistical correlation between series of real variables such as production and consumption, and monetary series such as prices and interest rates. Production and prices of the four countries studied do not statistically correlate; thus there is no wave operating coincidentally in the industrialized countries.

In other words, Kondratieff's hypothesis is simply not supported by any evidence. The long wave exists only in the minds of a few misguided analysts, but not in the real world. It is pure hokum.