# Review of the President's Climate Action Plan

## Testimony
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## By


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**Introduction**

Thank you, Chairman Boxer, Ranking Member Vitter, and fellow members of this committee for the privilege of testifying before the U.S. Senate's Environment and Public Works Committee. I am particularly grateful to offer my perspective as the former head of the state agency known as the Texas Commission of Environmental Quality (TCEQ), the second largest environmental agency in the world after the U.S. EPA.

The overwhelming majority of TCEQ's work is the actual implementation and enforcement of federal environmental regulation. Implementation of federal regulation in a state agency allows close observation of the actual -not estimated- impacts and relative effectiveness of federal policies in the towns, businesses, families and individual lives across Texas.


Source: EIA.

**Powerfully Positive Trends**

Before addressing specific components of the President's Climate Action Plan (CAP), I note the remarkably positive trends in U.S. emissions of anthropogenic carbon dioxide (CO2). In October 2013, the Energy Information Administration (EIA) announced that energy-related emissions of CO2 decreased 3.7 percent in 2012, the lowest emission level of CO2 since 1994.[1] And as a measure of the amount of

CO2 generated per dollar of economic output, the carbon intensity of the U.S. economy has steadily fallen since 1949. According to EIA, this carbon intensity declined 6.5 percent in 2012.[2]

Indeed, CO2 emissions in the U.S. are falling faster than in countries operating under mandates such as the European Union's Emissions Trading System or in countries like Germany which have most aggressively pursued renewable energy. Even before implementation of EPA's greenhouse gas regulations, U.S. CO2 emissions in 2012 fell 3.7 percent while Europe's declined by only 1.8 percent.[3] Although our weak economy and increased use of natural gas may have contributed to declining CO2 emissions, the long term trend is more the result of the private market's innate drive for efficiency.

**The President's Climate Action Plan: Overview**

The President's Climate Action Plan (CAP) is a mixture of at least fifty federal programs or initiatives that are mostly redundant at best. A few of the Plan's components, however, could be extremely damaging to the economy, low income families and even to U.S. national sovereignty. The Plan strikes me more as a legislative wish-list than an executive directive. Given the broad scope, cost, questionable need and lack of clear legislative foundation, such an expansion of federal purview is more properly the prerogative of Congress rather than the Executive branch.

The Plan's goal to reduce emissions of CO2 by 17 percent in 2030 appears arbitrary and without legislative foundation or technical justification. And the Plan seems out of sinc with significant developments in climate science as well as with NOAA's, NASA's , the UK's Meteorological Office, and even the IPCC's recent Fifth Assessment Report conclusions that recent extreme weather is neither historically unprecedented nor a result of man-made emissions of CO2.

**EPA's New Source Performance Standards for CO2 from Electric Generating Units**

The most aggressive provision in the Climate Action Plan directs the EPA to develop national regulatory standards for CO2 emission from power plants. EPA is already well underway on this initiative. The Agency recently re-proposed New Source Performance Standards (NSPS) for CO2 from new power plants and is developing a proposed NSPS for all existing plants. Based on carbon capture, control and storage technology, the CO2 limits dictated in EPA's proposed CO2 NSPS for new plants (or discussed for existing plants) are infeasible for coal.

In requiring the impossible, EPA breeches the limits of its regulatory authority under the Clean Air Act (CAA). Section 111(a)(1) of the CAA limits EPA's authority to technological-based limits achievable through "the best system of [emission] reduction" which has been commercially demonstrated. The only control measures now commercially available to reduce CO2 from coal fired generation are likely site-specific energy efficiency measures to improve heat rate. Energy efficiency is the indirect means of CO2 reduction that EPA utilized in its first greenhouse gas regulation for stationary sources- the so-called Tailoring rule applicable to large industrial sources.

EPA, however, now concludes that CCS technology does meet the CAA's required "best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated."[4] Carbon capture and storage technologies, however, have not yet been commercially demonstrated in a single successfully operating power plant. Several heavily subsidized

pilot projects have failed and the few remaining, such as Southern Company's Kemper County project, remain incomplete with staggering cost overruns. Southern Company's – still under construction- project sees costs rising to$ 4.2 billion from an originally estimated $2.4 billion.[5]

Significant technical, financial, and regulatory barriers must be resolved before CCS can become a practicable option for significantly reducing CO2 emissions from coal-fired generation at a commercial scale. Parasitic load remains a key obstacle. When capturing carbon alone requires one-third to one-half of the electric power generated in the plant, the commercial enterprise is not viable.

Yet, EPA has remarkably declared that CCS is a feasible control option at a reasonable cost for coal generation. EPA, evidently, decided to conflate technical feasibility with adequate commercial demonstration. And analogizing CCS to the successful emission control technologies for conventional pollutants, such as flue gas-desulfurization (FGD) to reduce sulfur dioxide, does not apply. Compared with CCS, evidence for the commercial availability of FGD was substantial when EPA first required that control method in 1971.

The volume of CO2 that must be captured and stored is vastly larger than the volumes involved with the conventional pollutants regulated under the CAA. CO2 is measured in tons while the criteria pollutants are measured in parts per million. In volume and chemical properties, CO2 is wholly unlike conventional pollutants. The separating technologies long used for processing natural gas and chemicals pose none of the technical barriers of pre or post-combustion "capture" of CO2.

The net effect of EPA's NSPS for CO2 emissions from power plants is to force fuel-switching from coal to natural gas or from any fossil fuel generation to non-emitting generation (e.g. wind or solar). EPA concludes that few, if any, coal-fired power plants will be built in the next decade and so claims the NSPS for CO2 merely reinforces the market's trend toward natural gas and renewables. From this perspective EPA contends the proposed NSPS for new plants will not yield meaningful benefits or costs.

In a five-hundred page regulatory impact analysis, the Agency finds "under a wide range of future electricity market conditions, the proposed EGU GHG NSPA is not expected to change GHG emissions from newly constructed EGUs and is anticipated to impose negligible costs, economic impacts or energy impacts on the EGU sector or society."[6] Does EPA mean banning new coal-fired power plants will not reduce CO2 emissions in the future or increase costs because EPA's rule eliminates any uncertainty about the role of coal in future electric generation? Yet, EPA's mission, as stipulated in the CAA, does not extend to exercising federal power to force fuel switching or to "reinforce" trends that environmental regulators observe in the energy market.

EPA is no longer acting within its statutory authority to protect human health and the environment when the Agency arrogates the right to dictate the nation's energy infrastructure. This is a major expansion of the EPA's authority and violates a core tenet of the CAA. Under the statute, EPA cannot engineer the nation's energy infrastructure. Nothing in the Act empowered the EPA to engage in centralized energy planning and to command the specific means of energy production.

Regulatory decisions carrying the force of law with this magnitude of national consequence are unquestionably the purview of the U.S. Congress and not the Executive branch. Enacted and largely upheld over forty years the CAA enshrines an assumption of economic freedom in this democracy. The

CAA allows private actors- not the EPA- to choose energy source, process and product. EPA's authority is limited to requiring the best pollution control technology that has been commercially demonstrated for the industrial process in question. Mandating a technology achievable for natural gas and infeasible for coal puts EPA in the driver's seat of this nation's energy economy. An alarming precedent, EPA's proposed standards for CO2 turns the generation of electricity from an enterprise focused on productivity, efficiency and innovation into an industry that first and last must serve the government's purpose regardless cost or productivity.

The proposed CO2 New Source Performance Standards for power plants are EPA's first direct regulation of CO2 under a national numeric limit. EPA's initial CO2 regulations promulgated in 2010, such as the Tailoring Rule for the large stationary industrial sources, require CO2 reduction indirectly by means of Best Available Control Technology (BACT) derived energy efficiency measures. In great contrast, EPA's NSPS for CO2 requires an amount of CO2 reduction that is practicably infeasible. In so acting, EPA exceeds a fundamental limit to its authority imposed by the terms of the CAA.

EPA's increasing stack of mandates to reduce CO2 demonstrate why the federal Clean Air is wholly unsuited to regulate this most ubiquitous by-product of human activity and natural process. Whether labeled a "dirty pollutant" or not, this chemical compound remains "the gas of life" on this planet and thus is quite unlike the conventional pollutants Congress directed EPA to control in the CAA. CO2 is what results after combustion of a fuel and cannot be readily scrubbed, stripped, filtered or chemically changed but must be captured.

Also in contrast to genuine pollutants listed in the Clean Air Act, CO2 levels in our ambient atmosphere have no direct adverse health effects. EPA's Endangerment Finding that CO2 (and other greenhouse gases) endanger human health relies upon prediction of harm as a result of warmer temperatures in the future. OSHA sets a health effects level for CO2 at 5000 parts per million; current atmospheric levels of CO2 are approximately 400 parts per million.[7] In public communications, EPA increasingly regards CO2 as a pollutant no different from the six criteria pollutants listed in the Clean Air Act. This misinforms the public about the chemical and physical dynamics of human, animal and plant life on this planet.

The economic damage from EPA's multiple efforts to supplant coal already are felt across this country. More than two hundred power plants and rising number of coal mines have shuttered or plan closure as a result of the many new EPA rules for traditional pollutants or in anticipation of these NSPS for CO2. Unemployment in towns around these plants and mines rises. These closures also come on the heels of the coal industry's approximately $100 billion in investment in state of the art emission control technologies. Many coal plants already have reduced criteria pollutants and key toxins by 60-80 percent.[8]

Supplanting coal-fired generation is not toying with the margins of the electric power supply in this country. Coal remains the largest source and an essential mainstay of base load electric power operating at a steady state twenty-four hours a day. Historically less subject to volatile swings in price, coal is still critical to assuring reliable, affordable power. Energy infrastructure such as transmission lines and transfer stations developed over a century cannot be rapidly replaced without enormous loss in investment, supply, reliability, and affordability.

U.S. policy makers might consider the human pain created by the most aggressive regulatory initiatives in the history of EPA - energy poverty increasing in European countries and emerging in the U.S. The

EPA's rules already have hurt middle and low income families in our country. In the last ten years, the cost of energy as percentage of pre-tax income has nearly doubled for the poorest household and can absorb 40 percent of income.[9]

Generic "green energy" policies are now imbedded across the entire federal edifice, most of which without underlying legislation. And the impacts of those policies disproportionately hurt the poor. Even our Native Americans communities are denied the opportunity to develop their significant energy resources on tribal lands. Last October, the Wall Street Journal reported how federal energy policies obstruct tribal plans to use their energy assets to alleviate poverty and unemployment. Recall that the average incomes of Native American are about one-third that of U.S. citizens and their unemployment rates are four times the national average.[10] Is there not a more pressing moral obligation to allow Native Americans the fruits of employment and economic growth than to deny that opportunity in vague hope of averting a slightly warmer climate?

The Crow Indian reservation in Montana occupies one of the largest reserves of coal in this country. The tribe does generate considerable revenue from coal but federal agencies prevent fully taking advantage of their substantial coal assets. Tribal chairman Darrin Old Coyote put it simply. "The war on coal is a war on our families and our children."[11]

**A Rush to Renewables: A Note of Caution**

The federal government already has spent hundreds of billions of taxpayer's money towards aggressive deployment of renewable energy. Perhaps now is the moment to cease the lavish subsidies for more and more wind and solar installations- as envisioned in the Climate Action Plan - to allow time to integrate the new renewable capacity into the electric grids without sacrificing reliability and affordability.

At an installed capacity of 12,214 MW, Texas has more wind generation capacity than most countries. And Texas has just completed over 2000 miles of transmission lines to utilize the wind generated in the far westerns regions of the state - hundreds of miles from the population centers surrounding Interstate 35 running through the central Texas region. The $7 billion cost of those transmission lines – called the Competitive Renewable Enterprise Zones (CREZ)- will be paid by retail electric customers.[12]

How Texas will best utilize all this wind capacity remains to be seen. Because of intermittency and seasonal variability, the Texas grid (Electric Reliability Council of Texas) rates wind generation only at 8.7 percent of wind's installed capacity.[13] Increasing use of wind generation can increase reliability risks as the wind abruptly stalls or rapidly increases beyond wind speeds appropriate for generation. If wind generation receives dispatch priority, our state's highly competitive real-time nodal market will lose its competitive dynamic.

The soaring electric prices in European countries with ambitious renewable programs should give pause. Germany's rush to renewables has led to the highest electric prices in any developed country. Coupled with energy surcharges, taxes and fees, household energy costs have doubled since 2000. Germany has adopted the most audacious renewable initiative with a goal of 35 percent of electric generation from renewables by 2020 and 85 percent by 2050.[14]

Britain, Denmark, and Spain also rushed to renewables - and their energy consumers have suffered for it - but Germany tops the list for energy cost and human loss. Major media in Germany report increasing energy poverty – where heat energy is viewed as a "luxury good" in competition with food.[15] This was the human condition for the majority of the population 250 years ago before the Industrial Revolution when England first tapped the vast store of energy in coal.[16] For the first time since the Industrial Revolution, energy regression- as a policy choice in the most developed and affluent nations of the world, rears its head.

Germany began its "Energy Revolution" (Energiewende) in 2000 and dramatically accelerated renewable installations in 2011 after the Fukushima nuclear disaster in Japan. Since 2000, Germany's electric prices have increased 50 percent and are now three times higher than average U.S. prices. By 2020, German officials now conservatively estimate electric prices at 40 percent more than current prices.[17]

Der Spiegel reports that over 600-700,000 German households are cut off from electricity because residents could not pay their continually increasing energy bills. The Catholic charity, Caritas, takes energy saving light bulbs on their home visits and notes families must decide between using a light bulb or having a hot meal.[18] Has Germany's ambitious deployment of renewables reduced CO2 emissions? No, quite the contrary. Germany's CO2 emissions associated with electric generation have increased as more coal has been used to back up inherently intermittent and thus unreliable wind or solar electric generation – a problem that increases in frequency the larger the load renewables are called upon to play.[19]

As anecdotal evidence about energy regression, consider that trees in the U.S. are now felled and turned into wood pellets to be exported to Germany and Britain for home heating, cooking fuel and (not-so-low-carbon) electric generation. While in principle renewable, wood when burned emits abundant CO2 and particulate matter (otherwise known as harmful pollution). Let's hope U.S. energy policies do not lead to headlines reporting that "Rising Energy Costs Drive Up Forest Thievery," as more and more people revert to burning wood for heat.[20]

Likewise, Britain- the cradle of the Industrial Revolution that released entire populations from abject poverty- recently announced that one in four households now live in energy poverty. The Daily Mail warns of the risks of 24,000 deaths of the elderly this winter who cannot afford to heat their homes.[21]

That such a regression from modern living standards could occur so rapidly in these highly developed economies is a stunning turn of events that U.S. policy makers would be wise to absorb. Haphazard wishful- thinking policies that dismiss energy physics and transfer the cost to consumers are regressive and morally objectionable.

**The Enigma: Fossil Fuel Is the Energy of Choice**

Energy dense, abundant, imperishable, versatile, reliable, portable and affordable, fossil fuels provide 85 percent of the world's energy because they are superior to current alternatives. This nation's prosperity – literally "powered" aided by the productivity made possible by concentrated energy- catalyzed multiple emission control technologies that have dramatically reduced the CAA's criteria pollutants and key toxins – genuine pollutants that can harm human health.[22] Fossil fuels have also reduced the human footprint on natural ecosystems. Fertilizer derived from natural gas has dramatically increased agricultural

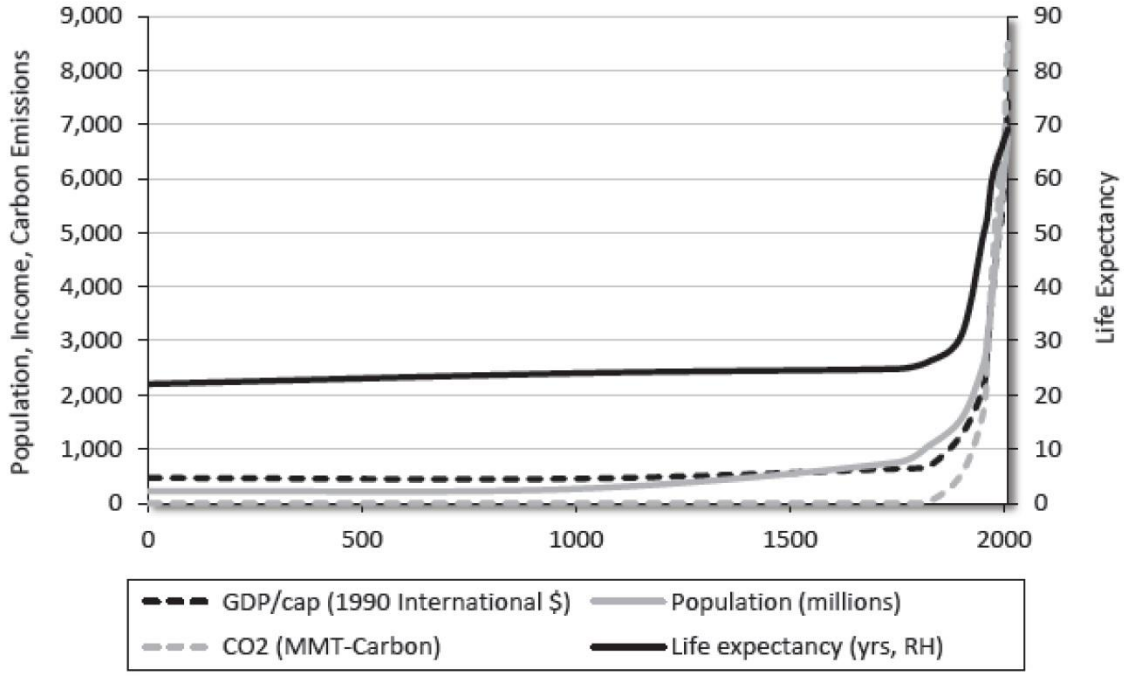
productivity as had the slightly increasing levels of atmospheric CO2.[23] Although wind, solar and biofuels have increased their share of the U.S. energy supply, they remain an inferior sliver of total supply. The EIA's Energy Outlook 2014 projects that fossil fuels will supply at least 80 percent of this nation's energy in 2040.[24]

Not so long ago, man methodically harnessed the dense energy in fossil fuels and so unleashed economic productivity on a scale never imagined in human history. When innovative minds like James Watt developed a steam engine which could convert heat energy into mechanical energy, the energy/economic limits under which all human societies had previously existed were blown apart. The greatest change was for the average worker. A life of back-breaking drudgery was no longer the common lot of the overwhelming majority of mankind.[25]

Population, life expectancy, and income per capita had changed little for all human history until the Industrial Revolution around 1800. Since then life expectancy has tripled and average global income per capita has increased 11-fold. Not coincidentally, man-made emissions of CO2 also have risen over the same period. See graph.[26]

Until energy sources comparable or superior to fossil fuels are fully available, grand plans to reduce CO2 emissions should proceed with caution, lest they prematurely jettison the wellsprings of mankind's greatest advance. The historic energy boom in the U.S., if allowed to flourish, offers the opportunity to lift millions out of poverty in this country and around the world. This country's energy riches can now be developed subject to elaborate environmental controls and without extending the human energy footprint on large swaths of still majestic  natural ecosystems.

**Figure 1**
**Global Progress, 1 A.D.–2009 A.D. (as indicated by trends in world population, gross domestic product per capita, life expectancy, and carbon dioxide [$CO_2$] emissions from fossil fuels)**




Source: Indur M. Goklany, "Humanity Unbound: How Fossil Fuels Saved Humanity from Nature and Nature from Humanity," Cato, December 20, 2012; based on Angus Maddison, Statistics on World Population, GDP and Per Capita GDP, 1-2008 AD, University of Groningen, 2010, http://www.ggdc.net/MADDISON/Historical_Statistics/vertical-file_02_2010.xls; World Bank, World Development Indicators 2011, http://databank.worldbank.org/; T.A. Boden, G. Marland, and R.J. Andres, Global Regional, and National Fossil-Fuel CO2 Emissions, http://cdiac.ornl.gov/trends/emis/overview_2008.html.

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