



**AMERICA AT A CROSSROADS**  
**Powering a New American Century**

**Executive Summary**

ConservAmerica makes the case for natural gas production in the United States. Abundant natural gas is largely responsible for the recent reduction in greenhouse gas emissions from power plants, and lower emissions of other harmful toxins.

Natural gas becomes even more attractive when all costs—economic and environmental—are factored into the various sources of energy.

Rather than oppose safe extraction of an energy source that is cleaner, here, and now, Americans should rally around exporting cleaner energy and clean energy technologies to the rest of the world.

**Introduction**

Our nation, from its infancy, has been the first to approach the crossroads of each new age. America's decision on which road to take has shaped the entire world, spread freedom and liberty, and provided better lives for the world's inhabitants.

Today, our nation stands again at a crossroads, and we must decide whether we will lead, or pause at this juncture and wait for another to show us the way.

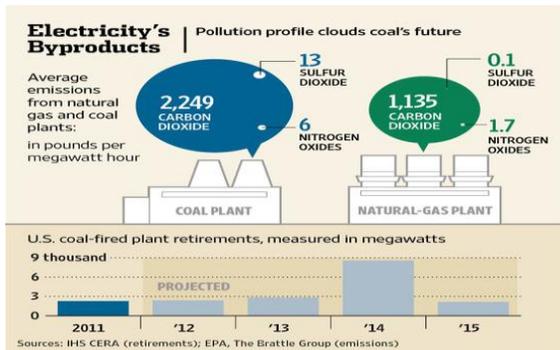
ConservAmerica acknowledges the overwhelming scientific consensus on climate change, and that we continue to emit harmful toxins by burning fossil fuels.

This is the crossroads at which we now stand: shall we leverage America's vast natural gas reserves to reduce harmful emissions and power our economy, or shall we cede leadership and economic strength to other nations?

**The American Left**

We believe conservative approaches to almost every problem are best, stand the test of time, and provide the strongest opportunities for Americans.

The progressive side of the political spectrum (the “Left”), though, believes the solutions to most problems reside in centralized planning and command and control methods. Inherent in this philosophy is that citizens cannot be trusted to exercise their individual liberty and freedom, and



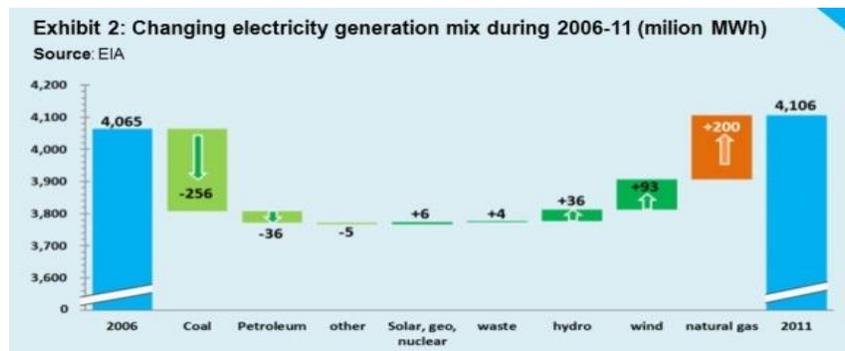
that the forces of markets are opposed to their welfare. Liberal approaches to problems often result in bigger government, higher costs (taxes), and less freedom of choice.

The Left has rushed blindly into the race for cleaner energy by pushing a myriad of policies that extract a heavier toll on our economy and the environment.

The Left is convinced that the only solution to emissions and climate problems is to push more and more solar and wind. Unfortunately, the answer is not as black-and-white as they would like us to believe.

Since 2005, the United States has led the world in reduction of carbon dioxide emissions. Between 2005 and 2011, we cut more than 509 million metric tons—five times the next leading country. This reduction of greenhouse gases is not due to renewable energy mandates, or subsidies to the solar and wind industries. It is the result of innovation in the free markets.

The leading source of reducing greenhouse gas emissions has been the displacement of coal by natural gas as a base-load fuel. Innovations in horizontal drilling and hydraulic fracturing of rocks (“fracking”) led to the shift toward natural gas from coal. The success of fracking in finding commercial success stands in marked contrast to resources supported by taxpayer subsidies.



The risks posed by fracking are no different than other drilling methods. During the current boom, there have been isolated cases of contamination due to faulty well casings or in inappropriate handling of waste liquids. There is little evidence that ‘fracking’ itself poses any environmental or health risks. Yet, the Left is leading the charge to stop natural gas exploration everywhere.

In addition to being the primary factor in the dramatic decrease of greenhouse gas emissions, the natural gas industry has been one of the bright spots for our economy and jobs outlook. Royalties

paid to landowners (including local, state, and federal governments) are creating new wealth across the map.

The United States cannot unilaterally disarm its energy economy. By moving too quickly to ‘not-ready-for-primetime’ energy sources or to more expensive sources, we put our economy on the precipice. During the past five years, while we reduced emissions by 509 million metric tons, China increased emissions by 3,252 million metric tons. China is supporting its burgeoning economy with cheap coal. We will cede global economic leadership to China if we burden our economy with vastly higher energy costs.

This, then, is the difference between liberal and conservative approaches. We (conservatives) seek balance in transitional times, to insure we don’t cause unintentional or irreversible harm; and to insure our ideas have deep enough roots to stand against changing winds in the future. Liberals, motivated as much by emotion as by facts, disregard the permanent things.

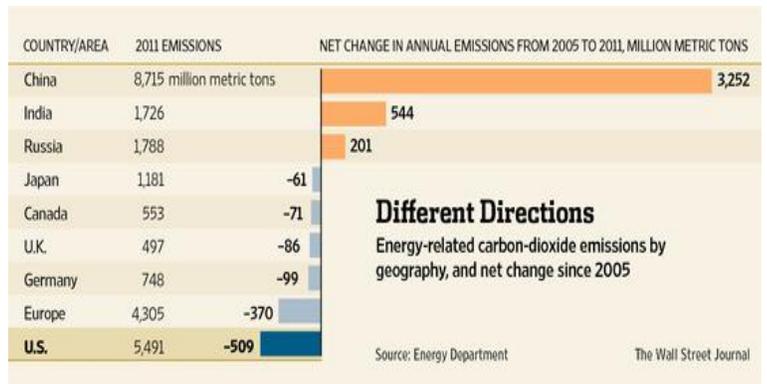
The Left lets its view of the perfect get in the way of the good.

### American Energy

The American energy industry has always been one of the primary economic engines of our nation in terms of wealth building, job creation, and providing other industries lower energy prices than global competitors.

On an even playing field, consumers will favor the lowest cost source of energy. It’s been that way since the first Europeans settled here. Our continent was blessed with running water—brooks, creeks, streams, and rivers—seemingly everywhere. Settlers quickly harnessed falling water to power grain and saw mills. Lumber was our first great export, supplying the largely denuded home island of England. Our vast forests provided not only the raw material for our export trade, but also fuel for forges and, later, steam boilers. Coal—easy to find and convenient to early population centers—replaced wood as the preferred fuel.

In the 1800’s, petroleum was tapped in Pennsylvania. Entrepreneurs, like dry goods agent John D. Rockefeller, rushed to the oil fields. Petroleum was easier to collect and ship than its predecessor fuels (wood, whale oil, coal). Pipelines soon replaced railroad tanker cars. Natural gas followed the same model.



When our own oil, coal, and natural gas reserves appeared to be finite, we began to look at alternative sources by the mid-1900's, including nuclear energy, and to import massive quantities of cheap oil from the Middle East. Energy was no longer just an economic feed stock, it was now a geopolitical chess piece.

By the 1960's, science had caught up with our economic growth. It became very clear that our largely unfettered industrial practices had exacted tremendous costs on our environment and human health. Belching smokestacks became the symbol of the environmental movement.

In response to those threats to America's air, water, and land, President Richard Nixon, a conservative Republican, signed into law the Clean Air Act, the Clean Water Act, the Safe Drinking Water Act, and the National Environmental Policy Act.

Fortunately, technology and innovation made great strides in less than two decades. Today, Americans give little thought to smokestack emissions. Yet, science has continued its march forward, and we know that harmful poisons are still emitted from U.S. power plants at volumes harmful to human health. According to the Centers for Disease Control, each year in the U.S., more than 600,000 infants are born with unsafe levels of mercury already in their bodies. That mercury enters the environment largely through burning fossil fuels and is digested by mothers in their diets.

Therefore, it is incumbent on America's leaders to develop policy that moves us, sooner than later, to cleaner domestic energy sources. Natural gas is cleaner, here, and now.

## The Baseline

The following chart from the U.S. Energy Information Administration provides an independent levelized baseline cost of each major source of electricity. Favored energy resources will always be the lowest cost to consumers and industry.

U.S. average levelized costs (2011 \$/megawatt hour) for plants entering service in 2018

Plant type	Capacity factor (%)	Levelized capital cost	Fixed O&M	Variable O&M (including fuel)	Transmission investment	Total system levelized cost
<b>Dispatchable Technologies</b>						
Conventional Coal	85	65.7	4.1	29.2	1.2	100.1
Advanced Coal	85	84.4	6.8	30.7	1.2	123.0
Advanced Coal with CCS	85	88.4	8.8	37.2	1.2	135.5

**U.S. average levelized costs (2011 \$/megawatt hour) for plants entering service in 2018**

<b>Plant type</b>	<b>Capacity factor (%)</b>	<b>Levelized capital cost</b>	<b>Fixed O&amp;M</b>	<b>Variable O&amp;M (including fuel)</b>	<b>Transmission investment</b>	<b>Total system levelized cost</b>
<b>Natural Gas-fired</b>						
Conventional Combined Cycle	87	15.8	1.7	48.4	1.2	67.1
Advanced Combined Cycle	87	17.4	2.0	45.0	1.2	65.6
Advanced CC with CCS	87	34.0	4.1	54.1	1.2	93.4
<b>Coal-fired</b>						
Conventional Combustion Turbine	30	44.2	2.7	80.0	3.4	130.3
Advanced Combustion Turbine	30	30.4	2.6	68.2	3.4	104.6
Advanced Nuclear	90	83.4	11.6	12.3	1.1	108.4
Geothermal	92	76.2	12.0	0.0	1.4	89.6
Biomass	83	53.2	14.3	42.3	1.2	111.0
<b>Non-Dispatchable Technologies</b>						
Wind	34	70.3	13.1	0.0	3.2	86.6
Wind-Offshore	37	193.4	22.4	0.0	5.7	221.5
Solar PV <sup>1</sup>	25	130.4	9.9	0.0	4.0	144.3
Solar Thermal	20	214.2	41.4	0.0	5.9	261.5
Hydro <sup>2</sup>	52	78.1	4.1	6.1	2.0	90.3

<sup>1</sup>Costs are expressed in terms of net AC power available to the grid for the installed capacity.

<sup>2</sup>As modeled, hydro is assumed to have seasonal storage so that it can be dispatched within a season, but overall operation is limited by resources available by site and season.

Note: These results do not include targeted tax credits such as the production or investment tax credit available for some technologies, which could significantly affect the levelized cost estimate. For example, new solar thermal and PV plants are eligible to receive a 30 percent investment tax credit on capital expenditures if placed in service before the end of 2016, and 10 percent thereafter. New wind, geothermal, biomass, hydroelectric, and landfill gas plants are eligible to receive either: (1) a \$22 per MWh (\$11 per MWh for technologies other than wind, geothermal and closed-loop biomass) inflation-adjusted production tax credit over the plant's first ten years of service or (2) a 30 percent investment tax credit, if placed in service before the end of 2013, or (2012, for wind only).

Source: U.S. Energy Information Administration, *Annual Energy Outlook 2013*, December 2012, DOE/EIA-0383(2012).

As the chart above clearly demonstrates, electricity generated by natural gas is the low cost option—by far. Given that emissions of carbon dioxide are about 50% that of coal, and even less on other toxins, America must focus on natural gas to fuel a robust economy and markedly cleaner air and more stable climate.

### Energy Subsidies Incent the Wrong Behavior

The U.S. energy industry has a problem. It is addicted to expensive government subsidies. Subsidies tilt the playing field and skew the market. Subsidies also dramatically change the full cost of energy produced by any particular source, and make comparison of any two sources an “apples and oranges” exercise.

In an opinion piece in The Wall Street Journal, Patrick Jenevein, the CEO of the Dallas-based Tang Energy Group, a wind energy development company, wrote that “Government subsidies to new wind farms have only made the industry less focused on reducing costs. In turn, the industry produces a product that isn't as efficient or cheap as it might be if we focused less on working the political system and more on research and development. After the 2009 subsidy became available, wind farms were increasingly built in less-windy locations, according to the Department of Energy's "2011 Wind Technologies Market Report." The average wind-power project built in 2011 was located in an area with wind conditions 16% worse than those of the average project in 1998-99.

The following chart list subsidies for electricity production energy sources:

**Table ES4. Fiscal year 2010 electricity production subsidies and support (million 2010 dollars)**

	Direct Expenditures	Tax Expenditures	Research & Development	Federal Electricity Support	Loan Guarantee	Total	Share of Total Subsidies and Support
Coal	37	486	575	91	0	1,189	10.0%
Natural Gas and Petroleum Liquids	1	583	15	56	0	654	5.5%
Nuclear	0	908	1,169	157	265	2,499	21.0%
Renewables	4,178	1,347	632	133	269	6,560	55.3%
Biomass	6	54	55	0	0	114	1.0%
Geothermal	115	1	72	0	12	200	1.7%
Hydropower	17	17	51	130	0	215	1.8%

**Table ES4. Fiscal year 2010 electricity production subsidies and support (million 2010 dollars)**

Solar	409	99	287	0	173	968	8.2%
Wind	3,556	1,178	166	1	85	4,986	42.0%
Unallocated Renewables	75	0	0	0	0	75	0.6%
Transmission and Distribution	461	58	222	211	20	971	8.2%
Total	4,677	3,382	2,613	648	555	11,873	100%

Notes: Estimates of federal electricity program support are based on the most recent audited annual reports for federally-owned utilities which conform to federal fiscal year convention.

Totals may not equal sum of components due to independent rounding.

The values provided in this table represent the average of the low and high values of more detailed estimates provided in the body of the report.

Sources: Office of Management and Budget, *Analytical Perspectives*, Budget of the United States Government, Fiscal Year s 2012 and 2009. Joint Committee on Taxation, Estimates of Federal Tax Expenditures for Fiscal Years 2010-2014, JCS-3-10 (Washington, DC, December 2010), Table 1, and budget documents from the Departments of Energy, Agriculture, Transportation, Treasury, Health and Human Services, Housing and Urban Development, the Environmental Protection Agency and the General Services Administration.

Natural gas receives the lowest value of subsidies of primary fuel types. Eliminating subsidies across the board would make it even more competitive.

The original intent of subsidies was to help nascent industries get off the ground, create jobs, and grow our economy. Subsidies, once on the books, are nearly impossible to end. ConservAmerica supports sun-setting all government subsidies over a sufficient period of time to permit adequate capital planning by today’s beneficiaries.

Pollution is another form of subsidy. We’ve always permitted the ‘dumping’ of pollution into our commonly owned and shared air. Landfills are a tangible, similar example. A contract hauler picks up our garbage, out on the curb, and hauls it to a landfill. There, the hauler is charged a fee for dumping the refuse where it will be responsibly covered and capped. The hauler passes a share of that fee on to you on your monthly bill. For power generation, our sky is the equivalent of the landfill, but, thus far, the only price paid is by our climate and health.

In regard to our domestic energy industry, ConservAmerica believes that free and informed markets are essential to our energy future. In order to provide the transparency for the market, the various types of energy should compete fairly and on a level playing field. That means subsidies should be phased out, and the full cost of each type recognized and assigned.

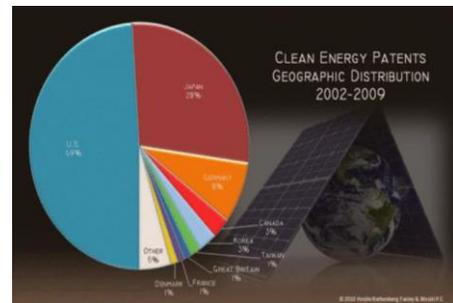
Renewable or clean energy standards—a subsidy in that it directs investment into preferred energy sources-- that do not credit natural gas for significant emissions advantages over coal and oil, should be amended to encourage accelerated displacement of dirtier technologies.

## America’s Promise

We are a nation of innovators, inventors, and a people striving for excellence.

*Fracking* technology did not arise from a government mandate or a government subsidy. It arose because George Mitchell was convinced that advances in horizontal drilling technology could be combined with rock fracturing to access trapped gas and oil. And he proved that it would work. This is in no way different than the decision made a century ago by “the chief engineer of the Edison Illuminating Company in Detroit, who quit his job so that he could design, manufacture, and sell a gasoline-powered vehicle that he named after himself – the Ford.”<sup>1</sup>

America was uniquely designed to succeed in a globalizing world – economic freedom was guaranteed and inventions were specifically protected in Article 1, Section 8, Clause 8 of the U.S. Constitution: “To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” That Constitutional protection has made America the idea capital of the world, and today America continues to lead the world in the exploration of new ideas and approaches in the energy and clean technology sectors.



What all of this means is simple: America should simply rely on the wisdom of the Founding Fathers, and the proven track record of capitalism in meeting challenges. We don’t need more government subsidies to politically-connected industries; we don’t need more government mandated solutions, subsidies, and incentives: We need more opportunity and more innovation.

The reality facing our world at the dawn of the 21<sup>st</sup> Century is that Capitalism won.

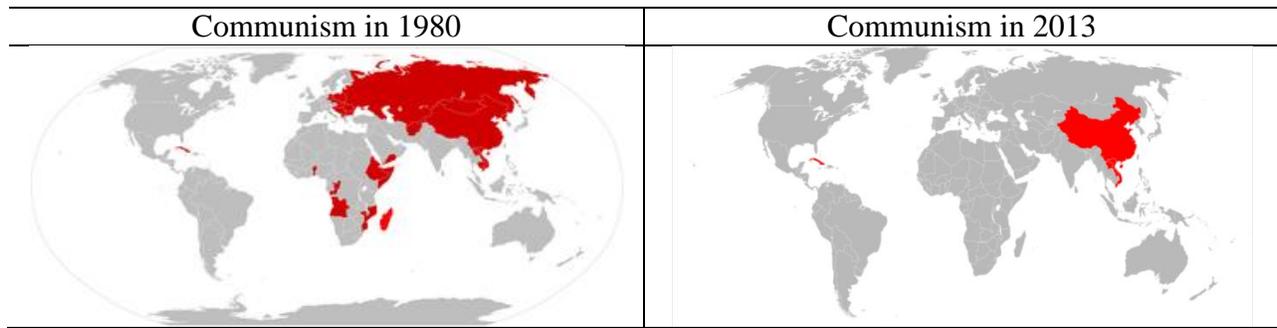
## The Global Challenge

The United States should be celebrating its current position. We’ve found new, accessible reserves of relatively clean natural gas that should permit us to continue to drive down GHG and toxin emissions from electricity generation for the foreseeable future.

And precisely because capitalism won, we have an unparalleled opportunity to grow our economy, create hundreds of thousands of new jobs, and create wealth for more Americans.

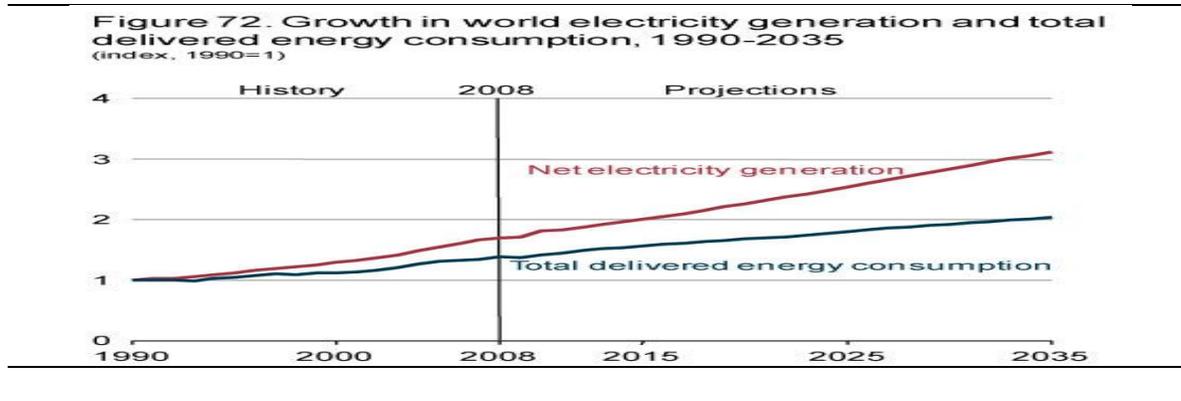
---

<sup>1</sup> The Prize, Daniel Yergin, pg. 80



Capitalism’s victory, like all victories, comes with consequences. As Fareed Zakaria so aptly put it, “In 1978, [China] made 200 air conditioners a year; in 2005, it made 48 million. China today exports in a single day more than it exported in all of 1978.”<sup>2</sup>

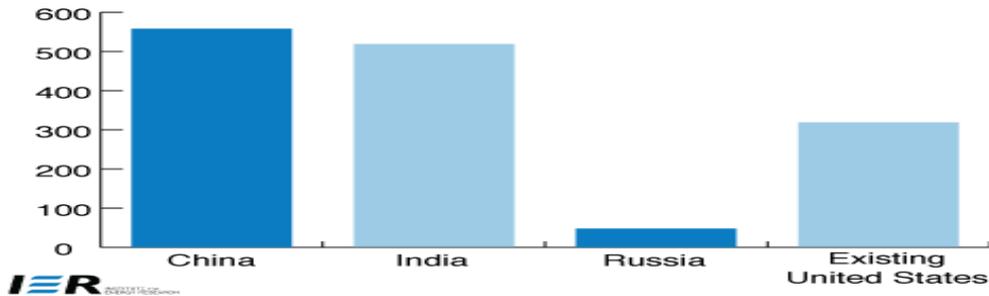
Capitalism’s rise will lead to one thing faster than perhaps any other – the demand for energy. The global energy business is a \$5 trillion per year enterprise.<sup>3</sup> America has the ability to export solutions, technology, processes, and innovations to a world that will only grow more energy-intensive.



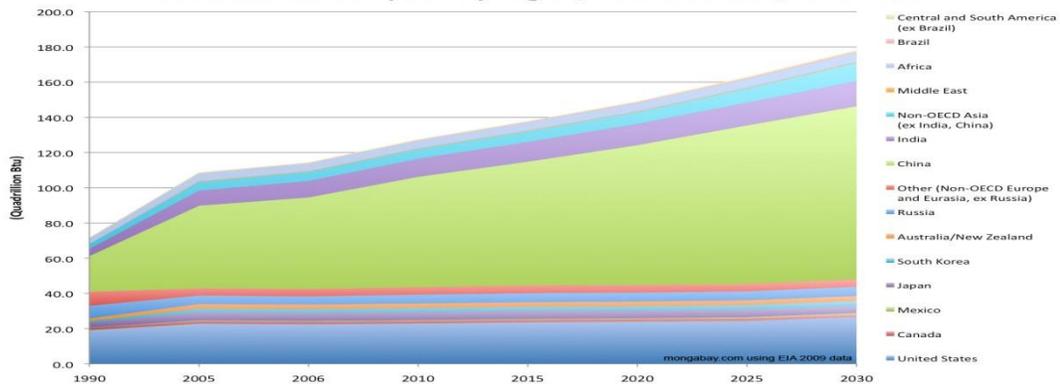
<sup>2</sup> The Post-American World, Fareed Zakaria, pg. 89

<sup>3</sup> Power Hungry, Robert Bryce, e-version, location 498

**Proposed New Coal-fired Capacity in Top Three Ranking Countries Compared to Existing U.S. Coal-fired Capacity (gigawatts)**

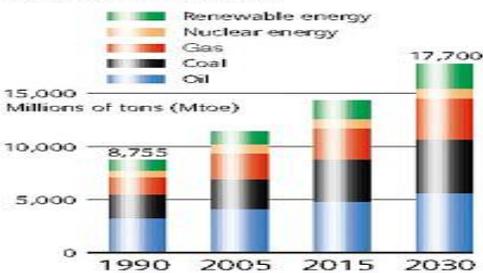


**World Coal Consumption by Region, Reference Case, 1990-2030**

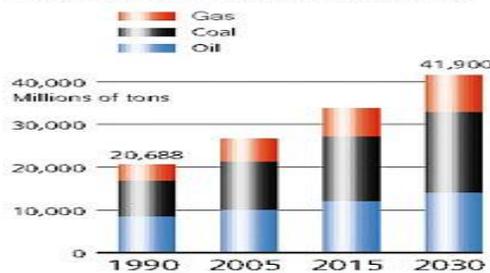


**Predicted Energy Demand and CO<sub>2</sub> Emissions**

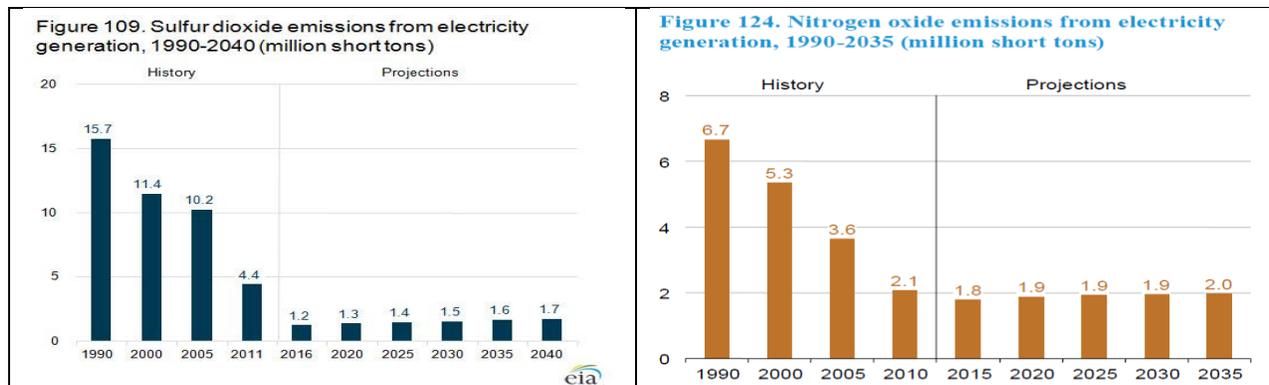
**Global demand for primary energy**  
Actual and forecast figures



**Carbon dioxide emissions**  
resulting from combustion of energy carriers



It is unquestionably true and proven that the U.S. is the world's leader in responding to challenges when the private sector is free to innovate and experiment. Pollutants can be controlled and given the looming tsunami of new energy production in the world, the U.S. needs to create, build, and export pollution control technology. Consider the great success American industry accomplished with these specific emissions from smokestacks:



The Republican Party should return to its historic roots where conservation and economic opportunity were balanced for good of the entire nation. The Party need not heed Al Gore’s Inconvenient Truth, or march to the tune of the various tea party factions when it comes to carbon dioxide emissions. The simple truth is that there is clear and present danger in the emissions created by burning fossil fuels. That is, reducing or eliminating emissions of arsenic, sulfur dioxide, nitrogen dioxide, and other toxins with American technology.

Pollution, no matter the source, threatens our individual liberty. Ronald Reagan said, “*Many laws protecting environmental quality have promoted liberty by securing property against the destructive trespass of pollution.*”

America should focus on developing technology to capture more of the arsenic, mercury, sulfur dioxides, and nitrogen oxides that also come from burning fossil fuels. There isn’t a parent in the world that wants to vote for a politician who doesn’t want to reduce emissions of those toxins. The Federal Government should create a regulatory and tax environment that encourages these companies, and thousands more involved in capital infrastructure projects, to deploy our cleaner energy technology—and coming innovations—to the rest of the world. With the anticipated demand for coal to grow by nearly 50% by 2030, America can best serve herself by exporting our talent and products.

US companies in the energy infrastructure sector:

American companies	Headquarters	Total Revenues	Total Workforce
<b>Bechtel</b>	U.S.	\$27.9 billion	➤ 52,000
<b>Caterpillar</b>	U.S.	\$60 billion	➤ 125,000
<b>Sundt</b>	U.S.	\$1 billion	➤ 1,500
<b>Fluor</b>	U.S.	\$27 billion	➤ 42,000
<b>GE</b>	Global	\$147 billion	➤ 250,000 <sup>4</sup>

<sup>4</sup> More than half of G.E.’s employees are overseas

It is through our own ingenuity and commerce that global emissions of harmful toxins and GHG will be managed in any form.

## **Conclusion**

The job of the U.S. electricity utility sector is to provide consumers with reliable power at globally competitive rates. Our rates are currently skewed (lack transparency) due to direct and implied subsidies. These subsidies need to be ramped down in order to permit true choice by consumers.

America's natural gas reserves, and the home-grown technology to access it, have led the world in GHG and toxin emissions reductions, and will be the basis of a growing domestic economy. We should continue to lessen our reliance on coal, and move to abundant and much cleaner natural gas.

As developing nations expand the impact of capitalism, the global demand for energy will skyrocket. Most of that demand will be met by burning readily accessible and cheap coal. This will exacerbate emissions issues, but provide U.S. industry an unparalleled opportunity to export energy and energy solutions.

Therefore, our focus must be on helping other nations of the world to meet their energy requirements in the cleanest and most efficient manner available. In the 20<sup>th</sup> century, "American power" referred to our military strength. Today, in this new century of American Power, it means a strong, vibrant economy based on exporting our energy technology, including hydraulic fracturing, across the globe.