PPHB

ENERGY INVESTMENT BANKING

MUSINGS FROM THE OIL PATCH

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Note*: Musings from the Oil Patch reflects an eclectic collection of stories and analyses dealing with issues and developments within the energy industry that I feel have potentially significant implications for executives operating and planning for the future. The newsletter is published every two weeks, but periodically events and travel may alter that schedule. As always, I welcome your comments and observations.* Allen Brooks

Expanding Offshore Regulation: Flying Below Radar Screen

Attendees are always interested in the intersection between politics and regulation, which ultimately impacts the economic health of the domestic offshore oil and gas industry

We recently attended the 40th annual meeting of the National Ocean Industries Association (NOIA) in Washington, D.C., which was focused on the current state of the offshore industry along with a heavy emphasis on current economic and political trends, with the latter being of great interest for the attendees. Attendees are always interested in the intersection between politics and regulation, which ultimately impacts the economic health of the domestic offshore oil and gas industry. One of the panels dove into a topic – offshore regulation – that has not received much attention from the energy industry press or from offshore producing and service company managements. This is a topic that should be receiving greater attention and, in fact, some worry that how regulation is currently being conducted, may alter the historical working relationship between offshore service companies and their clients.

The U.S. government sprang into action, but often found that the laws and procedures for dealing with a situation such as Macondo were not clear and in some cases inadequate

The past few years have been a watershed for the domestic offshore energy industry. On April 20, 2010, when the Deepwater Horizon drilling rig, owned by Transocean Ltd. (RIG-NYSE) and working for BP p.l.c. (BP-NYSE), suffered a well blowout, caught fire and sank taking with it the lives of 11 offshore workers. BP's Macondo well blowout unleashed the largest oil spill in the history of the Gulf of Mexico and upended the workings of the entire offshore market. The offshore industry was engulfed in dealing with the well disaster while at the same time organizing a massive oil spill clean-up effort. The U.S. government sprang into action, but often found that the laws and procedures for dealing with a situation such as Macondo were not clear and in some cases inadequate.

The Deepwater Horizon and Macondo disasters ignited a festering anti-oil industry feeling among the American populace and a large segment of the U.S. political establishment. If the oil industry wasn't

liked before Macondo, it was hated after! Not only were lives lost in the accident, but the continued spewing of ugly black oil that washed up on the beaches of the Gulf Coast was witnessed not only from onshore, but could be seen 24/7 on TV and computer screens globally, courtesy of underwater cameras held in place there by remotely operated vehicles operated by offshore service companies.

This was an industry trifecta that even the most ardent opponent of the oil industry couldn't have dreamed up in a scenario of how an industry could self-destruct

The three primary players in the disaster – BP, Transocean and Halliburton (HAL-NYSE) – represented elements of the petroleum industry people and politicians disliked. BP, a foreign oil company that had built its U.S. presence by buying up American oil companies, was run by British executives who seemed to be inept and more importantly, tone-deaf to the anger of Americans. Transocean, a leading offshore drilling contractor, had been one of the many oilfield service companies that abandoned the U.S. for lower-taxed jurisdictions around the world during the great wave of corporate inversions despite the criticism by Washington politicians. Lastly, Halliburton, which had once been led by former Vice President Dick Chaney, a man hated by the Left and many Americans who opposed the Iraqi war, completed the trifecta. This was an industry trifecta that even the most ardent opponent of the oil industry couldn't have dreamed up in a scenario of how an industry could self-destruct. More importantly, this was a trifecta that was at war with each other over who was at fault in causing the disaster.

To work better, in this case, meant providing stricter regulation

The Deepwater Horizon accident ushered in a new environment of critical review and new regulation for the offshore oil and gas industry. Only weeks after embracing the idea of opening up parts of the U.S. East Coast for oil and gas development, the Obama administration was forced to reverse itself. Not knowing what to do, and frankly not possessing any expertise in how to deal with the offshore industry, the Obama administration used the disaster as an opportunity to expand the federal government's control over the industry. The long-standing problems at the Department of the Interior over its handling of Indian royalty income coupled with the sex, drug and payola scandals involving Minerals Management Service (MMS) inspectors just a few years earlier provided the impetus for a thorough examination into how the agency worked and whether it could be made to work better. To work better, in this case, meant providing stricter regulation.

On May 19, 2010, Secretary of the Interior Ken Salazar signed Secretarial Order 3299 that established the Bureau of Ocean Energy Management (BOEM), the Bureau of Safety and Environmental Enforcement (BSEE) and the Office of Natural Resources Revenue (ONRR). These three organizations were charged with carrying forward responsibilities that previously had been conducted by the MMS. According to Secretary Salazar, the purpose of the reorganization was to address "conflicting missions" carried out by the current MMS that necessitated they be separated in order to eliminate the conflicts. At the time of the announcement, Secretary

Salazar said the reorganization is "not the first nor the last reform" of MMS, and subsequent actions support that statement.

Initially, the MMS was renamed the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE). Michael Bromwich, formerly a partner and head of the internal investigations, compliance and monitoring practice with the law firm of Fried, Frank, Shriver & Jacobson LLP, and before that the Inspector General in the U.S. Department of Justice, was appointed the director of the agency. In revising the regulation of the offshore oil and gas industry, Mr. Bromwich set in motion a policy that is quite radical based on the nearly 65-year history of regulation of offshore drilling in U.S. waters. The new policy was revealed in a speech Director Bromwich delivered at the 2011 Offshore Technology Conference in Houston. In that speech, he said he wanted to announce two new major developments being initiated by his agency. One dealt with how information about well permitting would be conducted in the future and the other dealt with regulations about entities that operate offshore. It is this latter development that provides the substance of concern for oilfield service companies operating offshore.

In that speech, he said he wanted to announce two new major developments being initiated by his agency

Quoting from Director Bromwich's prepared remarks we can see both the substance of the regulation, but just as importantly the inherent danger in how this regulation is being handled – what is and should be of great concern to offshore oilfield service company managements. Director Bromwich stated:

"Second, I have mentioned several times in recent weeks my interest in exercising regulatory authority over not only offshore operators but contractors as well. It has struck me as inappropriate to limit our authority to operators if in fact we had legal authority that reached more broadly to the activities of all entities involved in developing offshore leases. ***We have completed our review of the issue and have concluded that in fact we have broad legal authority over all activities relating to offshore leases, whether engaged in by lessees, operators, or contractors. We can exercise such authority as we deem appropriate.*** The reason for our historical practice that has focused solely on regulating operator was that it served to preserve clarity and the singular responsibility of the operator. I am convinced that we can fully preserve the principle of holding operators fully responsible -- and in most cases solely responsible -- without sacrificing the ability to pursue regulatory actions against contractors for serious violations of agency rules and regulations. We will be careful and measured in extending our regulatory authority to contractors." (Emphasis added.)

We have completed our review of the issue and have concluded that in fact we have broad legal authority over all activities relating to offshore leases, whether engaged in by lessees, operators, or contractors

The current regulatory blanket that has been thrown over the offshore service industry hasn't stirred much discussion or apparent concern among company managements, but the fact that the federal government has made this determination without citing any statutory

authority should give pause. This policy was reiterated in a response to a question following a presentation to the NOIA meeting by James Watson the current director of BSEE. Quite possibly company managements do not understand that they are now subject to regulation. It is possible they do not know because there haven't been any actions by BSEE other than to issue "Incidents of Non-Compliance" (INC) to Halliburton and Transocean relating to the Deepwater Horizon accident. Since those INCs were related to that disaster, other offshore service company managements may not appreciate their new regulatory status.

Quite possibly company managements do not understand that they are now subject to regulation

In a presentation dealing with this issue, attorneys Paul Smyth and Robert Thibault with Perkins Coie, LLP pointed out some of the problems with the way in which BSEE is conducting offshore service company regulation. Besides there being no identified statutory authority for the regulation, there are no definitions of exactly who is covered, nor are there standards for performance set forth. As they pointed out, and even highlighted by Director Bromwich in his OTC speech, the historical regulatory process involves legal arrangements agreed to between Lessees (oil companies who hold the offshore lease) and the federal government. Under that arrangement, the standards for performance are spelled out and the process allowing the government to bring a claim for non-compliance is set forth.

Besides there being no identified statutory authority for the regulation, there are no definitions of exactly who is covered, nor are there standards for performance set forth

In this case, the lack of authority and definition of performance standards can lead to revisionary interpretation of actions. We all understand how perfect hindsight is. Additionally, there is no process for dealing with the government's claims and thus there are no limits as to the nature or source of a company's possible exposure or to the extent of the government's reach in extending its jurisdiction. This regulatory situation is the equivalent of driving your car around a town with no speed or warning signs and then being subjected to the judgment and interpretation of rules by the traffic officer writing you a ticket.

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Messrs. Smyth and Thibault warned their audience that until either this regulatory scheme is rescinded by BSEE or overturned by the courts, the managements of offshore service companies should consider the potential impact this regulation could have on their businesses. That means understanding the impact on operations, insurance coverage and even corporate governance, including regulatory filings for public companies. Companies should consider implementing, or at least reviewing, regulatory compliance programs. Existing service contracts should be reviewed for clarity over risk-sharing and indemnification terms and even pricing arrangements. Public companies also need to consider the adequacy of their business risk disclosure in their filings with the Securities and Exchange Commission. All of this is good advice, but the better solution would be for the government to follow the correct legal process and either establish authority for this regulation and its

Companies should consider implementing, or at least reviewing, regulatory compliance programs

rules, or abandon the regulatory over-reach. On the other hand, the offshore service industry needs to acknowledge its potential regulatory exposure and prepare to deal with it, or be willing to face the consequences should an issue develop.

The Bandwagon Claiming Energy Independence Is Rolling

The U.S. is currently a net exporter of refined products for the first time since 1949, but we still import nearly half the crude oil needed to keep our economy running every day

In our last *Musings* we wrote about the misrepresentation of basic energy fundamentals by the mainstream media, represented by *The New York Times* columnist Tom Friedman's writing about the U.S. becoming energy independent. Mr. Friedman's column was prompted by an email from energy economist Phil Verleger. Since we have not seen that email, we don't know whether Mr. Verleger mischaracterized the supply and demand balance of the United States or whether it was Mr. Friedman's lack of understanding of the difference between crude oil and refined petroleum products. Yes, the U.S. is currently a net exporter of refined products for the first time since 1949, but we still import nearly half the crude oil needed to keep our economy running every day. That doesn't make us "energy independent."

During the past two weeks, there have been a number of articles published in the mainstream media heralding this new era for America, some more nuanced and informed in their arguments than others. There has been an improvement in domestic crude oil production and a dramatic improvement in natural gas and natural gas liquids production. The country's improved energy balance has also benefitted from reduced consumption due to a warmer winter, increased energy efficiency and demand reductions related to the sputtering economic recovery and persistently high unemployment.

This improved energy balance has been officially recognized as The New York Times

This improved energy balance has been officially recognized as *The New York Times* put an article, "U.S. Inches Toward Goal Of Energy Independence" in a high profile location on its front page last Friday. As this energy independence bandwagon gains speed, we anticipate more people including politicians to climb aboard. About this issue, we would only point to the investment warning label: Past performance is no guarantee of future results.

Investors Worry Over China; How About Energy?

Lately investor fears are focused on the health – or rather possibly the lack of growth – of China

Recently the stock market was concerned with the European sovereign debt situation, but that has passed with the bailout of Greece. Lately investor fears are focused on the health – or rather possibly the lack of growth – of China. For much of the past decade the global economic and investment thesis has been the rise of China. China has also been a significant part of the energy story. What happens if the apparent slowdown in China's economy actually happens?

Exhibit 1. Near-term Concern Overwhelms Future

Source: BHP Billiton

He was quoted as saying that Chinese demand for iron ore was "flattening out" and the growth rate could fall into the "single digits" if it hasn't already

Last week at the Australian Journal of Mining, Global Iron Ore & Steel Conference, Ian Ashby, President of BHP Billiton Iron Ore, a subsidiary of BHP Billiton (BHP-NYSE), made cautionary comments about iron ore demand in China. He was quoted as saying that Chinese demand for iron ore was "flattening out" and the growth rate could fall into the "single digits" if it hasn't already. Mr. Ashby showed the slide in Exhibit 1 that caused a negative reaction within the global investment community when coupled with his comments. Actually it is probably an accurate assessment of what is happening currently in China. There have been different interpretations of exactly what message Mr. Ashby was intending to deliver. Importantly, China will be a significant force in the global iron ore market for a long time based on the historical pattern of steel demand and economic growth.

China's Premier Wen Jiabao announced the new target of 7.5% growth, down from the 8% target that has been in place since 2005

While mineral and energy demand has been strong during the first two months of 2012, the government is determined to slow China's growth in order to reduce inflation and help the country through its economic and political transition. In a speech to the National People's Congress earlier this month, China's Premier Wen Jiabao announced the new target of 7.5% growth, down from the 8% target that has been in place since 2005. The government's inflation target was maintained at 4%. The plan to slow the economy reflects the leadership's goal of reducing inflationary forces at a time it engineers the shift from an investment and export oriented economy to one driven by domestic consumption. To successfully make this shift it will be necessary for the country to undergo a political transition at the same time.

To appreciate the nature of this Chinese transition and the risks it may entail, Martin Wolf of the *Financial Times* quoted Premier Wen Jiabao's comments from a March 14th speech in Beijing. "The reform in China has come to a critical stage. Without the success of political structural reform, it is impossible for us to fully institute economic structural reform. The gains we have made in reform and development may be lost, new problems that have cropped up in China's society cannot be fundamentally resolved and such historical tragedy as the Cultural Revolution may happen again." China has already begun the process of transitioning from "extensive growth" driven by rising inputs of labor and capital to one of "intensive growth" driven by improving skills and technology.

China was once a labor surplus economy because of its large rural population. That labor surplus helped keep wage rates low in the industrial sector and aided the country's growth as it became the "low cost" manufacturing center for the world. Economic growth and urbanization have been so rapid that surplus labor no longer exists. Over the past 35 years, China's economy has grown 20-fold, in real terms, and half the country's population is urban. Due to China's low birth rate, the working age population (15-64 years old) will reach a peak of 996 million people in 2015. Labor shortages have become an increasing problem since they first surfaced in the coastal provinces in 2004.

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The challenge for China in this transition is overcoming increasing wages while sustaining profitability. That will require China to grow based more on technical progress than cheap labor. However, there likely will be some decrease in profitability but it will be the result of a shift in income distribution within the economy correcting the current inequitable distribution. The challenges in making this shift explain why the Premier emphasized the need for significant political changes. In trying to get to this new economy China's odds of a short-term "hard landing" have increased. This is partly why the government has reduced its growth target to 7.5% for 2012 and to 7% in the current five-year plan. The charts in Exhibit 2 show the history of economic growth by its major components and the country's planned growth profile through 2030.

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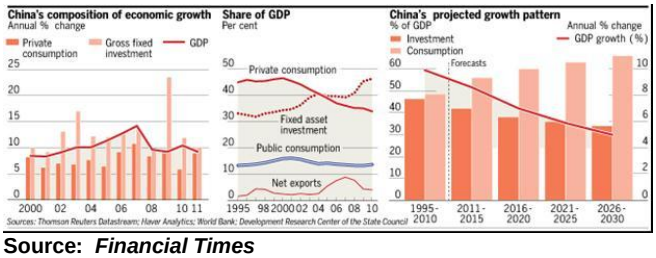
Exhibit 2. China's Growth And Future Structure



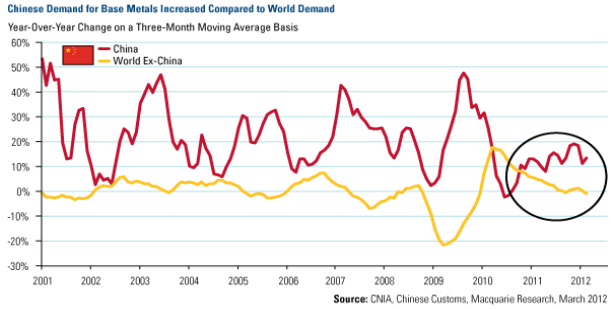
Source: ***Financial Times***

China's response to the global economic crisis was to boost investment, but that may have created an even greater challenge for

This transition means China's future growth will be significantly different than we have come to expect

the planners in engineering the current economic transition. Moving from an investment rate of 50% of gross domestic product to one of only 35%, without a deep recession along the way, requires an offsetting surge in consumption. Changing the Chinese from savers to consumers is a significant challenge. If successful, this transition means China's future growth will be significantly different than we have come to expect and it will impact the consumption of materials. As one can see in Exhibit 3, it already appears there is a reduction in material demand relative to the world's total.

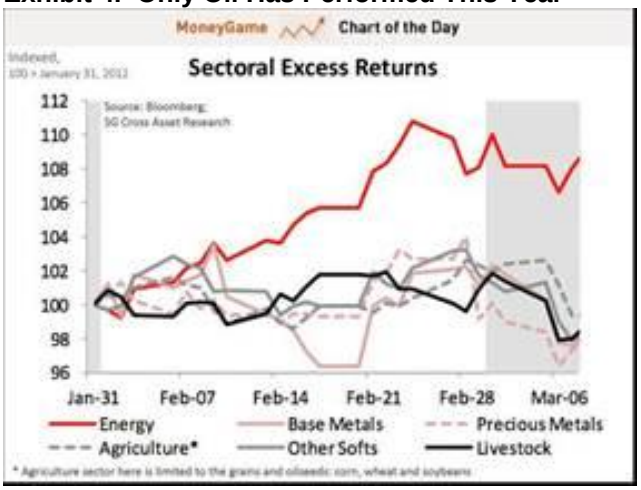
Exhibit 3. Slowing China Impacts Materials



Source: Global Investors

We have also seen that other than oil, which has been impacted by the geopolitical events, commodities have fallen out of investor favor this year.

Exhibit 4. Only Oil Has Performed This Year

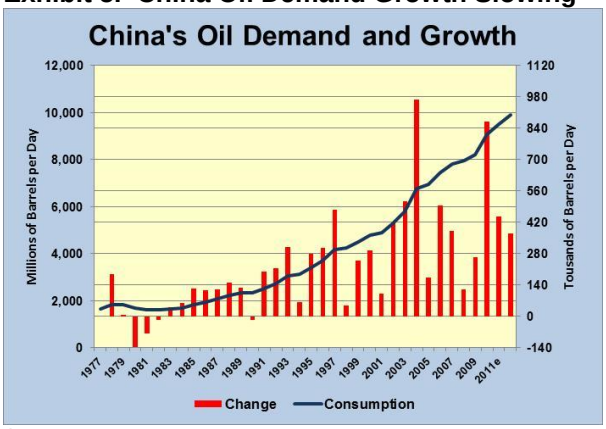


Source: MoneyGame.com

We should expect increased oil use and a greater need for energy

As China moves forward in its economic transition, we must watch its impact on internal consumption and in turn oil consumption. Will China's future economy look more like western consumer-oriented economies? If so, we should expect increased oil use and a greater need for energy. The prospect of a successful transition seems to be behind China's global energy supply hunt of recent years.

Exhibit 5. China Oil Demand Growth Slowing



Source: BP, IEA, PPHB

Can China successfully pull off that shift? If it does, we can probably look forward to China's economy surpassing that of the United States. If not, the concern will be whether China suffers a severe or a moderate recession, and whether long-term damage is inflicted on the economy. The Middle East is the current focus of the energy market but maybe we should be watching China closer.

Has The Tide Turned Against The EPA? Maybe; Maybe Not

The high court ruled that the EPA's administrative orders issued under the Clean Water Act can be reviewed by a court before the EPA can seek to enforce them

Last week the U.S. Supreme Court, in a stunning 9-0 decision, handed the Environmental Protection Agency (EPA) a setback over its enforcement activity. The high court ruled that the EPA's administrative orders issued under the Clean Water Act can be reviewed by a court before the EPA can seek to enforce them. This is a reversal of the rulings of the Ninth Circuit Court of Appeals and the Appellate Courts along with precedent from four other circuit courts. Those courts had ruled that the plaintiffs could not sue to prevent enforcement of the order because the Clean Water Act precluded that right.

The deputy solicitor general who represented the EPA said that the agency had no statutory obligation to disclose these fines

The case involved a couple in Idaho who owned a two-thirds acre lot where they planned to build a home. They leveled the lot with new soil and rock, which the EPA believed illegally filled in wetlands in violation of the Clean Water Act. The EPA ordered the couple to remove the fill and restore the affected wetlands. The order further stated that failure to comply with its terms could result in a $37,500 per day fine until the property was properly restored to its original condition. There was also the possibility the couple could be subject to criminal charges. According to *The Wall Street Journal*, during oral arguments it was disclosed that not only was the couple subject to the fine for violating the Clean Water Act, it was also subject to a $37,500 day fine for violating the compliance order. The deputy solicitor general who represented the EPA said that the agency had no statutory obligation to disclose these fines.

In an article by the law firm, Bracewell & Giuliani about the decision, the author says that for the couple, they still face an uphill battle to try to prove that the wetlands in their case were nonjurisdictional. "Showing a lack of jurisdiction may be hard given the government's expansive view of its jurisdiction, the nebulousness of the law, and the deference given the agency." The author goes on to quote from the concurring option of Justice Joseph Alito saying "the combination of the uncertain reach of the Clean Water Act and the draconian penalties imposed for the sort of violations alleged in this case still leaves most property owners little practical alternative but to dance to EPA's tune."

The EPA could circumvent the Supreme Court ruling by merely issuing a warning to the parties rather than an enforceable order

There are two aspects of this ruling that remain troubling. First, deference to the EPA may lead to most wetlands being found to be jurisdictional, so most of the administrative orders will be upheld. Additionally, the EPA could circumvent the Supreme Court ruling by merely issuing a warning to the parties rather than an enforceable order. The ability for the EPA to issue notices of violations already exists, which could be expanded by adding in remedial measures the agency would like to see the parties undertake to avoid the issuance of an administrative order or other enforcement action. These notices would not be final agency action subject to review under the Administrative Procedure Act, but penalties would still accrue. Moreover, after the notice, the alleged violation could be considered a "knowing" violator and thus subject to different and additional enforcement actions.

This may mean that the courts cannot avoid the issue of whether the unilateral authority granted under various environmental laws is constitutional by just declaring unilateral orders to be shy of final agency action

The second issue is that the rationale for the Supreme Court's decision in this case was the absence of language in the Clean Water Act that prohibited pre-enforcement review. That is not the case in all legislation as many laws have that express prohibition clearly stated in the legislative language. However, this decision could force the courts to confront the constitutional due process issues arising from the unilateral ordering authority given to the EPA. This may mean that the courts cannot avoid the issue of whether the unilateral authority granted under various environmental laws is constitutional by just declaring unilateral orders to be shy of final agency action. I think the author of the Bracewell article is suggesting that the courts might finally have to address the question of if it looks like a duck, walks like a duck and quacks like a duck, maybe it is a duck! That could go a long way in beginning to reign in the power of the EPA, and possibly other agencies engaging in over-reaching actions.

Has Grade Inflation Hit The Energy Department?

While there are still ten months left to President Barack Obama's four-year term of office, a Republican controlled House of Representatives is starting to administer final exams for some of his cabinet members. One of the first to be graded was Energy Secretary Steven Chu, and it became evident from the hearing

transcript that the "student" had a very different view of his achievement than his "teachers."

Exhibit 6. Sec. Chu Grades Himself

Source: ***The Washington Post***

At a prior hearing, Secretary Chu commented that he felt his performance as Energy Secretary had earned him a grade of A-minus

Secretary Chu, a Nobel Laureate in physics, has been the target of great scrutiny from Congress lately due to the problems of green-energy companies provided funds and loan guarantees by the Energy Department and soaring gasoline pump prices. At a prior hearing, Secretary Chu commented that he felt his performance as Energy Secretary had earned him a grade of A-minus. During the recent hearing of the House Oversight and Government Reform Committee focusing on gasoline prices, the following exchange took place between Representative Darrell Issa (R-Calif.) and Secretary Chu.

"ISSA: Now, let me just ask one basic question, in an earlier hearing, you gave yourself an A-minus. In weatherization, do you give yourself an A-minus?

"CHU: Actually, I do.

"ISSA: In controlling the cost of gasoline at the pump, do you give yourself an A-minus?

"CHU: Well, the tools we have at our disposal are limited, but I would say, I would give myself a little higher in that since I became secretary of Energy, I've been doing everything I can to get long-term solutions."

He is known for his research at Bell Labs in cooling and trapping of atoms with laser light, which won him the Nobel Prize in Physics in 1997

Secretary Chu is a physicist and the 12th Secretary of Energy. He has both a B.A. in mathematics and a B.S. in physics from the University of Rochester and a Ph.D. in physics from the University of California, Berkeley. He is known for his research at Bell Labs in cooling and trapping of atoms with laser light, which won him the Nobel Prize in Physics in 1997, along with several colleagues. At the time of his appointment as Energy Secretary he was a professor of physics and molecular and cellular biology at the University of

California, Berkeley and the director of the Lawrence Berkeley National Laboratory, where his research was concerned primarily with the study of biological systems at the single molecule level. Previously, he had been a professor of physics at Stanford University. Secretary Chu comes from a family with a long history of scholarship as he and many of his relatives over several generations have attained doctorates, medical and/or legal degrees, and a number of them have been or are college professors.

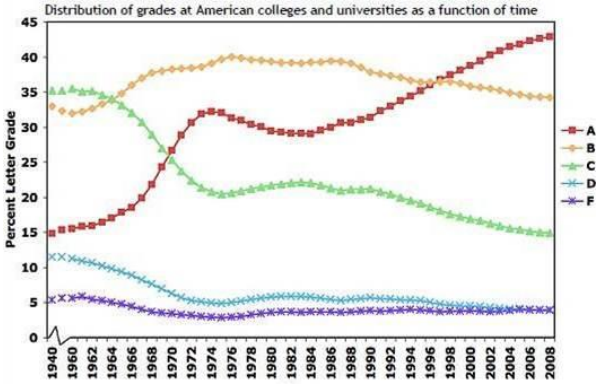
He is a major promoter of the electrification of the domestic vehicle market

Secretary Chu has been an advocate for more research into renewable energy and nuclear power, arguing that a shift away from fossil fuels is essential for combating climate change. He is a major promoter of the electrification of the domestic vehicle market. These views probably explain why he said in 2008 before assuming his cabinet office that he wanted to see U.S. gasoline prices as high as those in Europe. When questioned about that statement during the recent gasoline hearings, he disavowed that position claiming that since he assumed his current position he has worked constantly for lower gasoline prices for Americans.

Their study showed that the share of A grades awarded has skyrocketed over the years

A detailed study last year by Stuart Rojstaczer and Christopher Healy of college grading over decades shows the impact of grade inflation. The two researchers collected historical data on letter grades awarded by more than 200 four-year colleges and universities. Their study showed that the share of A grades awarded has skyrocketed over the years. The data is shown in two ways – over time and public versus private schools. About 43% of all letter grades given were A's, an increase of 28 percentage points since 1960 and 12 percentage points since 1988. (Exhibit 7) The growing share of A's comes at the expense of a shrinking share of C's, D's and F's.

Exhibit 7. Rapid Inflation In A's

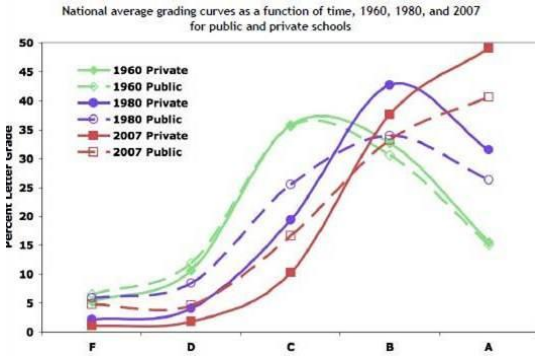


Source: ***The New York Times***

At the end of the last decade, A's and B's represented 73% of all grades awarded at public schools, and 86% of all grades awarded at private schools. The authors of the study don't attribute the grade inflation to higher-quality or harder-working students. Another study

found that students actually spend significantly less time studying today than they did in the past. The researchers argue that grade inflation started in the 1960s and 1970s because professors were reluctant to award D's and F's as that might condemn students to a tour of duty in Vietnam. Exhibit 8 shows grade inflation over time and between public and private schools.

Exhibit 8. Another Look At Grade Inflation



Source: ***The New York Times***

They believe this is in response to incentives for the faculty to grade more generously

Messrs. Rojstaczer and Healy attribute the acceleration in grade inflation to a "consumer-based approach" to education. They believe this is in response to incentives for the faculty to grade more generously. More generous grading can produce better reviews of professors, which can influence tenure decisions and compensation; also higher grades can help students become more competitive candidates for graduate school and the job market. Secretary Chu's elevated grading of his performance has raised questions. He would probably point to a conclusion from the study that schools that focus on science and engineering tend to be stingier in awarding A's than liberal arts school of equal student selectivity. Secretary Chu's academic training fits into that stingier category, but we're not sure about the schools that awarded him his academic degrees.

The Department of Energy has placed nearly one-third of its clean-energy loan portfolio on an internal "watch list" for possible violations of terms or other concerns

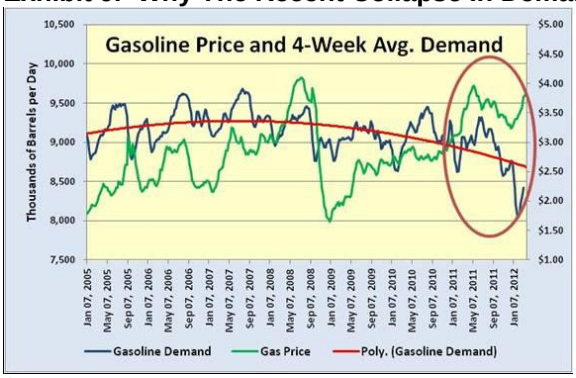
A problem for Secretary Chu was the observation by the study's authors that grading standards may become even looser in the coming years. This trend will make it harder for graduate schools and employers to distinguish between excellent, good and mediocre students. Based on gasoline prices and the green energy loan scandal, members of Congress are struggling to evaluate Secretary Chu. He in turn said, "there's not an exam" on gas prices, but he then added, "Well, actually the exam is my record and my record as secretary of Energy and what I've done." That is true, and given the level and trend in gasoline prices coupled with the disclosure last week by *The Wall Street Journal* following the analysis of a document obtained under a Freedom of Information Act request that the Department of Energy has placed nearly one-third of its clean-energy loan portfolio on an internal "watch list" for possible violations of terms or other concerns, we doubt the Congressmen would agree with Secretary Chu's grade assessment.

Has The Gasoline Demand Mystery Been Solved?

The typical response has been that high gasoline pump prices are the culprit

For quite a while we, and others who track the crude oil and refined product markets, have wrestled with the sudden collapse in gasoline demand as highlighted by the area of the chart in Exhibit 9 inside the oval. The typical response has been that high gasoline pump prices are the culprit. Others have suggested it's due to the economic recovery remaining fragile and average hourly wages having barely increased as unemployment continues at historically high levels, all putting a squeeze on family incomes and spending. We have been exploring other factors that could be eroding gasoline demand such as demographic shifts among the U.S. population and the impact of the Internet on shopping and working patterns. Now, however, it seems that maybe the Energy Information Administration (EIA), the publisher of the weekly gasoline demand report, is acknowledging that it has failed to capture the sudden and dramatic increase in gasoline export volumes.

Exhibit 9. Why The Recent Collapse In Demand?



Source: EIA, PPHB

A nearly 8% drop in gasoline consumption following years of demand growth suggests there is a problem in the petroleum market

In the Weekly Petroleum release for the week ending March 16, 2012, the EIA reported that the four-week average demand for gasoline was 8.4 million barrels per day, a decline of 7.8% from the prior year comparable period. A nearly 8% drop in gasoline consumption following years of demand growth suggests there is a problem in the petroleum market. For quite a while trying to understand what lies behind this collapse has been a head-scratcher. Yes, there is in an uproar over the rising price of gasoline at the pump, and politicians have been attacking "speculators" for causing prices to rise while demanding reformation of crude oil markets to stop them from profiting at the expense of the American driving public (we wrote about this last *Musings*). As one energy writer emailed us following the publication of that article, in his view the opening up of the commodity pits to financial players has led to this rampant speculation. He scoffed at the estimate made by the St. Louis Federal Reserve economists that speculators only accounted for 15% of the price move during 2004-2008. He thought it was more like 150%, or even 1,000%!

A problem with this obsession about speculators is that the assumption is made that they make money all the time, no matter what's happening in the market

Another friend suggested that if some of the accounting rules regarding mark-to-market accounting for hedging activity employing futures and options were changed, then commodity markets might gain from increased liquidity due to more and larger players deciding to participate, which would reduce the impact financial players are having on price. A problem with this obsession about speculators is that the assumption is made that they make money all the time, no matter what's happening in the market. We are sure many oil speculators lost money during the summer of 2008 when crude oil futures prices failed to crack the $150 per barrel barrier.

The emerging financial crisis led to the credit crisis and then to the great economic recession and ultimately to the end of the crude oil bull market

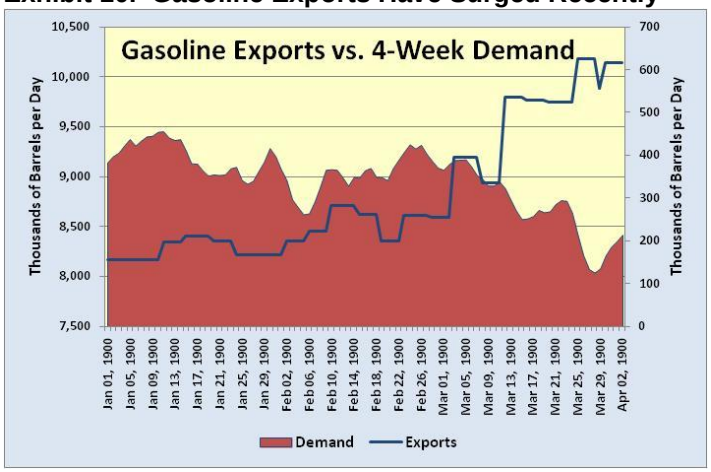
For a few days in early July 2008, crude oil futures traded in the $140-145 per barrel price range at the tail end of an extended price move. As the traders tried, and failed, to drive the contract price beyond the $150 mark, motivated by comments by a high-profile investment analyst that oil was headed to $200 per barrel, a collapse was inevitable. The emerging financial crisis led to the credit crisis and then to the great economic recession and ultimately to the end of the crude oil bull market. Many speculators bet that the price barrier would be broken, but they lost out when it failed to happen. We are sure some of them switched to the other side of the trade as oil prices plummeted, but by then they were working to make up for their prior losses. To better understand speculators, we suggest reading the classic 1923 book, Reminiscences of a Stock Operator by Edwin Lefèvre. The novel is a thinly disguised biography of legendary day-trader and stock manipulator Jesse Livermore who made and lost multiple fortunes on Wall Street in the early years of the last century.

The concern is that the EIA is underestimating the amount of gasoline being exported

If the EIA has missed a fundamental change in the domestic petroleum market, they may be continuing to overestimate the magnitude of the drop in gasoline demand. The concern is that the EIA is underestimating the amount of gasoline being exported. The Weekly Petroleum report requires the EIA to make estimates of certain data reported, which they then true-up at a point in the future when more reliable data is available. According to a recent article in *The Wall Street Journal*, last August the EIA estimated that gasoline exports were averaging 255,000 barrels per day, which later proved to actually be 536,000 barrels per day. The *Journal* estimates that the EIA may be underestimating gasoline demand due to its methodology by roughly 623,000 barrels per day, or the equivalent demand of countries such as Belgium, Turkey, South Africa or Argentina.

Once the EIA realized this mistake it adjusted its forecasting methodology. The EIA had been using a five-year average for projecting current gasoline exports but now has switched to using monthly data from the Census Bureau that appears to be more accurate. That data shows much higher exports leading to more realistic estimates of domestic demand.

Exhibit 10. Gasoline Exports Have Surged Recently



Source: EIA, PPHB

Currently, the EIA is comparing estimates for domestic demand against inflated numbers from last year, which has the impact of magnifying the decline. Instead of 7-8% weekly year-on-year declines in gasoline demand, one private analyst estimates the decline is more like 4%. According to MasterCard's Spending Survey, Americans have been reducing their gasoline purchases every week of the past year compared to a year ago at a 3% rate of decline. While the Obama administration would like to take credit for the drop in gasoline consumption due to improved fuel economy mandates, the decline may truly reflect the impact of high prices. There are certainly other factors impacting gasoline demand such as a decline in the number of registered vehicles, less mileage being driven by those vehicles, and fewer teenage drivers and more older drivers with markedly different vehicle use patterns. In addition, there is still the unknown impact of the Internet on shopping and business driving patterns. All of these factors need to be explored in greater depth in order to grasp what is actually happening in the energy marketplace. The weekly gasoline demand data series is certainly open for future adjustment, but that doesn't help those of us who are trying to make heads or tails of the data in order to know how the energy market is performing now. This questionable data, which may be further altered by other market forces such as the impact from changes in the ethanol mandate, for example, reaffirms the view attributed to many sources that "there are three kinds of lies – lies, damned lies and statistics."

While the Obama administration would like to take credit for the drop in gasoline consumption due to improved fuel economy mandates, the decline may truly reflect the impact of high prices

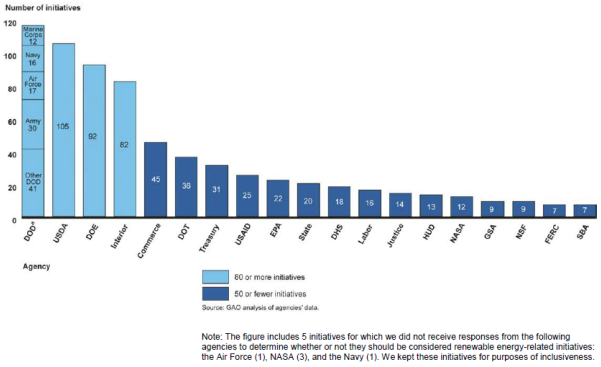
Government Renewable Initiatives Count In Subsidy Debate

The General Accounting Office (GAO) of the federal government was asked by Congress to identify the renewable energy-related initiatives undertaken by agencies and to examine the federal roles the agencies' initiatives supported. In a 172-page report just released, the GAO found that 23 government agencies and their 130

Four of the 23 agencies collectively accounted for almost 60% of all the initiatives

sub-agencies had nearly 700 renewable energy initiatives underway during fiscal 2010. Four of the 23 agencies collectively accounted for almost 60% of all the initiatives. Not surprisingly, those agencies are the Department of Defense (DOD), Agriculture (USDA), Energy (DOE) and the Interior. What the GAO wasn't asked to do was to determine how much money is being committed under these initiatives, although one would have to think the dollars are not inconsequential.

Exhibit 11. Four Agencies Dominate Initiatives



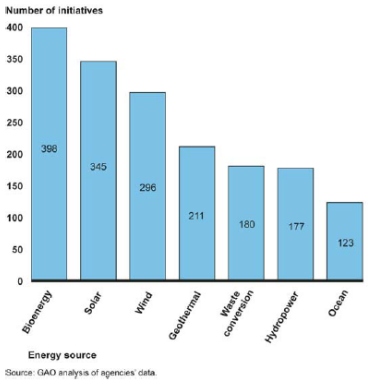
Note: The figure includes 5 initiatives for which we did not receive responses from the following agencies to determine whether or not they should be considered renewable energy-related initiatives: the Air Force (1), NASA (3), and the Navy (1). We kept these initiatives for purposes of inclusiveness.

Source: GAO report

Solar has the second highest number of initiatives followed by wind

When the analysis turns to the types of renewable fuels being supported by the government initiatives, it is not surprising that all three of President Obama's favorites are top ranked. The fact bioenergy is number one reflects the fact it is such a broad category. From switch grass to algae and faster growing trees for pellet production, we can imagine the range of bioenergy projects. Solar has the second highest number of initiatives followed by wind. It is interesting to see that there are 177 initiatives for hydropower - a technology most people would assume is relatively mature.

Exhibit 12. Obama Favorites Lead



Notes: The sum of the initiatives across the renewable energy sources in this figure adds to more than the total number of initiatives in our inventory because initiatives often supported multiple energy sources. Also this figure does not include data for 29 initiatives for which we could not determine the applicable renewable energy sources based on the responses received from the following agencies: the Air Force (1), the Army (1), DOE (15), HUD (4), NASA (3), the Navy (2), the other DOD components that report to the Office of the Secretary of Defense (1), State (1), and USDA (1).

Source: GAO Report

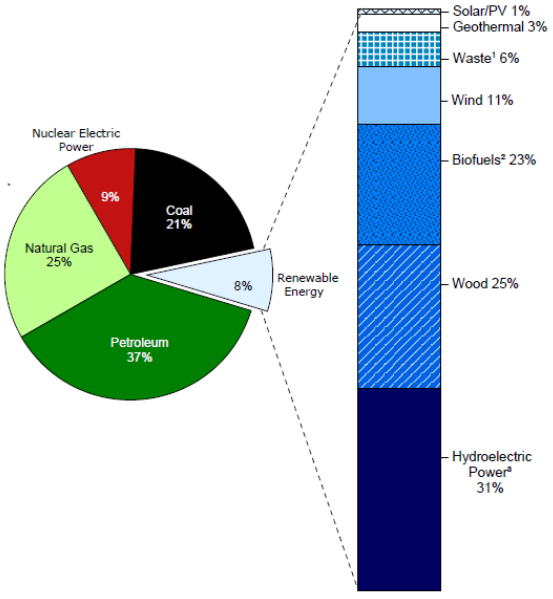
According to the GAO report, more than 80% of the initiatives cover four key federal roles

With all this government effort to support the development of renewable energy, it is important to understand what the federal government is doing. Its effort to foster the development and increased use of renewable fuels was boosted by provisions of the American Recovery and Reinvestment Act, otherwise known as the Stimulus. According to the GAO report, more than 80% of the initiatives cover four key federal roles. Those roles include supporting research and development, using renewable energy in vehicle fleets and facilities, providing incentives for commercialization and deployment, and regulating, permitting and ensuring compliance. These roles span a wide array of support for these fuels. For example, the government has provided a loan guarantee for a company that has a contract to provide solar panels to sit atop military buildings, which is being paid for the DOD. In another case, the federal government has purchased compressed natural gas and electric vehicles, all of which wind up in this initiative count.

The GAO found in its compilation of renewable initiatives that certain agencies led the efforts in each of the federal roles. The DOE, DOD and USDA lead the renewable research and development efforts. The DOD, General Services Administration and DOE lead the initiatives in the use of renewables for fleets and facilities. The Treasury and USDA targeted the commercialization and deployment efforts while the Environmental Protection Agency was the lead for regulation, permitting and compliance.

Exhibit 13. Renewable Energy's Small Role

Renewable Energy as Share of Total Primary Energy Consumption, 2010

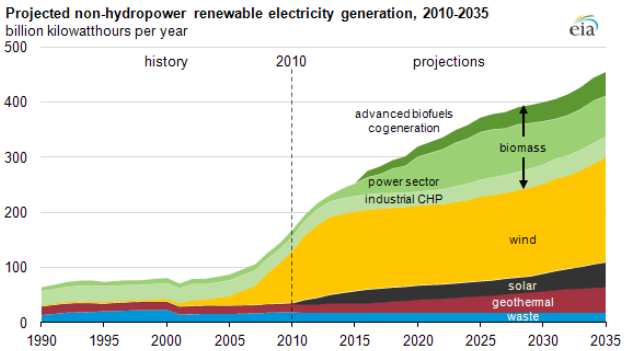


Source: EIA

Despite the relatively small role for renewable fuels, given the federal government's money and state renewable energy mandates dictating increased usage, the renewable fuel outlook should reflect substantial growth

As of 2010, the latest data available from the Energy Information Administration, all forms of renewable energy supply about 8% of the nation's total energy consumption. Of that total, 31% comes from hydroelectric power, or about 2.4% of the nation's total consumption, while biomass along with waste represents 53%, or just over 4% of total consumption. Despite the relatively small role for renewable fuels, given the federal government's money and state renewable energy mandates dictating increased usage, the renewable fuel outlook should reflect substantial growth. That is exactly what the EIA is projecting in its latest forecast shown in Exhibit 14. That forecast excludes hydropower, which is usually included in renewables. What is interesting in the EIA's forecast is its outlook for wind power growth relative to all other sources of renewable energy.

Exhibit 14. Wind Leads Future Renewables



Source: EIA

If the Obama administration is re-elected this fall, we expect to see even more funding for renewable fuel initiatives, including stepped up government purchases of alternative fuel vehicles, power generation equipment and fuels

When the debate turns to the future fuel supply mix for the United States, renewable fuels are receiving the lion's share of the push by the federal government based on the sheer number of initiatives undertaken by the roughly 150 agencies and sub-agencies. If the Obama administration is re-elected this fall, we expect to see even more funding for renewable fuel initiatives, including stepped up government purchases of alternative fuel vehicles, power generation equipment and fuels. On the other hand, should the Republicans win the White House, expect that some of these initiatives may be cut off from future funding, although we do not expect all of them to be shut down. There clearly are renewable fuel initiatives that make sense but that isn't likely to be $120,000 electric roadster cars.

Americans Believe Nat Gas Benefits Outweigh Risks But…

Americans believe the benefits of natural gas outweigh the risks

Last week the results of a recent survey by The Harris Poll of American's attitudes toward various energy sources were released. The message delivered by some of the media was that Americans believe the benefits of natural gas outweigh the risks. What we found when we looked at the details of the poll was that while 66% of Americans polled believe the benefits outweigh the risk, up two

The environmental campaign against natural gas because of how it is extracted has gained strength during the past several years

percentage points from the same survey in 2011, the percentage is unchanged from 2009. On the other hand, 17% of Americans believe the risks outweigh the benefits of natural gas, unchanged from the 2011 poll but up three percentage points from 2009. The other interesting data point is that the percentage of Americans who are not sure about the benefits or risks has declined from 20% in 2009 to 18% in 2011 and now only 17%. That suggests attitudes are solidifying and, based on the trend of this negative view, the environmental campaign against natural gas because of how it is extracted has gained strength during the past several years.

Exhibit 15. Attitudes Against Natural Gas Grow

		BENEFITS OUTWEIGH RISKS (NET)	Benefits strongly outweigh risks	Benefits somewhat outweigh risks	RISKS OUTWEIGH BENEFITS (NET)	Risks somewhat outweigh benefits	Risks strongly outweigh benefits	Not at all sure
		%	%	%	%	%	%	%
Solar	**2012**	**79**	63	15	**8**	4	4	13
	2011	77	64	13	8	3	6	14
	2009	82	68	14	5	3	2	13
Wind	**2012**	**76**	61	16	**9**	5	5	15
	2011	75	61	14	10	3	7	15
	2009	78	62	17	7	4	2	15
Natural gas	**2012**	**66**	34	32	**17**	12	5	17
	2011	64	31	34	17	11	6	18
	2009	66	30	36	14	11	3	20
Geothermal	**2012**	**53**	32	21	**10**	6	4	37
	2011	52	33	18	10	5	5	38
	2009	52	32	20	7	5	2	40
Coal	**2012**	**42**	15	27	**40**	23	17	18
	2011	38	15	23	43	24	18	19
	2009	36	13	23	42	22	20	22
Nuclear	**2012**	**40**	15	24	**41**	19	21	20
	2011	42	20	22	37	18	19	21
	2009	44	21	23	34	17	17	22
Biomass	**2012**	**30**	13	17	**12**	8	4	58
	2011	30	14	17	12	7	6	57
	2009	28	12	16	12	8	4	60

Source: The Harris Poll

The decline in the nuclear rating is not surprising given the Japan earthquake, tsunami and subsequent nuclear reactor meltdown

When fuel sources are ranked by the percentage of people considering that the benefits outweigh the risks, solar and wind are considerably ahead of natural gas, 79% and 76% versus 66%, respectively. Behind those three fuels is geothermal (53%), coal (42%), nuclear (40%) and biomass (30%). Over time, the poll results show no change in the rating of biomass and geothermal, but there was a four percentage point decline in the acceptance of nuclear while there was a six percentage point improvement in coal's rating. The decline in the nuclear rating is not surprising given the Japan earthquake, tsunami and subsequent nuclear reactor meltdown. Although Americans are not as concerned about the risk of nuclear, around the world, especially in Germany, nuclear power

There is a nine percentage point spread between the youngest and oldest in their views of solar, and a seven point spread for wind

has been determined to create a huge risk requiring the replacement of the country's entire fleet of reactors. In response to the view that benefits outweigh risks, when people are classified by age, there are some interesting trends and divergences. There is a nine percentage point spread between the youngest and oldest in their views of solar, and a seven point spread for wind. In the case of natural gas, the spread widens to 31 percentage points with a noticeable spread between Echo Boomers (18-35 years old) and Gen X (36-47) versus Baby Boomers (48-66) and Matures (67+).

Exhibit 16. Matures Accept "All Of The Above"

	Total	Region				Generation				Political Party		
		East	Midwest	South	West	Echo Boomers (18-35)	Gen X (36-47)	Baby Boomers (48-66)	Matures (67+)	Rep	Dem	Ind
	%	%	%	%	%	%	%	%	%	%	%	%
Solar	79	78	74	80	83	75	74	83	84	79	79	83
Wind	76	72	76	77	80	72	75	80	79	74	78	82
Natural Gas	66	60	66	67	71	53	65	71	84	74	62	69
Geothermal	53	48	56	50	59	50	49	54	62	55	51	56
Coal	42	35	49	48	33	33	39	47	54	59	33	41
Nuclear	40	33	41	43	41	34	34	43	53	51	32	43
Biomass	30	28	32	29	33	31	31	32	24	31	29	32

Source: The Harris Poll

This data suggests the older population is much more receptive to an "all of the above" energy supply mixture

Between the Matures and Echo Boomers there is a 21 percentage point spread for coal and a 19 point difference for nuclear. In both cases, the Matures believe these fuels have greater benefits than risks. When it comes to biomass, the younger group has a more positive view than do the Matures. That is the only fuel source where the Echo Boomers hold a more favorable view than do the Matures. This data suggests the older population is much more receptive to an "all of the above" energy supply mixture. The problem is that the current administration, for all its claims about wanting to develop and use all forms of energy, continues to side with those people most opposed. This may be another example of "old age and treachery will overcome youth and skill."

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