PPHB
ENERGY INVESTMENT BANKING

# MUSINGS FROM THE OIL PATCH

**November 21, 2017**

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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

## The Importance Of Government Subsidies For EV Success

**The House tax revamp bill would extend and modify various clean energy subsidies**

The United States Congress is beginning the process of hammering out the technical details of tax reform proposals from its House of Representatives and Senate bodies. At risk in this process is continuation of the subsidies for clean energy investments - investments in new wind turbines and solar panels, along with the subsidies for electric vehicle (EV) purchases. The House tax revamp bill would extend and modify various clean energy subsidies, primarily related to the production tax credit for wind and solar power generation, allowing them to phase out rather than to be eliminated at once. The bill would eliminate the federal tax credit for EV purchases, however.

The recently unveiled Senate Republican tax proposal would keep the EV subsidy, as well as the production tax subsidy for clean energy generation. At the same time, the Senate bill would continue various tax incentives for small oil and gas producers who are able to deduct the cost of “intangible drilling costs” that cover expenses for repairs and supplies used in drilling wells.

In one article detailing the proposed House tax bill, we were fascinated by the quote of Michigan Democratic Senator Debbie Stabenow, something we are still trying to understand. First, we aren’t sure why a quote from a senator was included in a story about the House tax bill, other than the possibility that since she is on the Senate tax writing committee, her opinion would set the stage for the at-then unreleased Senate tax bill.

**"In so many ways this is a shell game”**

Sen. Stabenow was quoted saying: "In so many ways this is a shell game that when it ends hurts a lot of jobs in Michigan and middle class families and the benefits go to the wealthiest Americans. It’s not a good deal." We thought her choice of the phrase “shell game”

**Auto manufacturers have said that when the market shifts a substantial portion of new car sales to EVs, they can operate with smaller manufacturing facilities and fewer workers**

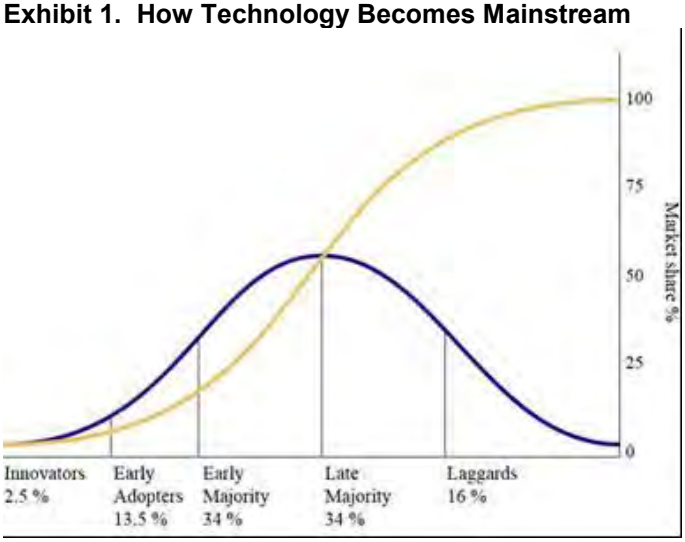
in discussing the EV tax credit was interesting. According to the Merriam Webster dictionary, the "Definition of shell game: 1 thimblerig played especially with three walnut shells; 2 fraud; especially, a swindle involving the substitution of something of little or no value for a valuable item." We wonder if she really meant to call attention to this government-sponsored "scam". Yes, when it ends it will impact those auto company jobs building EVs. Of course, that assumes the auto companies stop building other types of vehicles to meet the future needs of Americans. Interestingly, the auto manufacturers have said that when the market shifts a substantial portion of new car sales to EVs, they can operate with smaller manufacturing facilities and fewer workers. So, which outcome is worse?

**For the tax credit to be of value to EV buyers, they must have a current federal income tax liability sufficient to use the credit**

While Congress struggles to rationalize the two very different visions for tax reform, there will be much noise and debate over the value of clean energy subsidies. If the tax revamp provides a significant tax reduction for Middle Class Americans (whatever that means), the value of a federal tax credit for buying or leasing an EV would likely be severely limited. That reality does support Sen. Stabenow's comment about the tax credit "benefits going to the wealthiest Americans," because they will be the only ones paying meaningful taxes. Remember that for the tax credit to be of value to EV buyers, they must have a current federal income tax liability sufficient to use the credit as it is limited to the year the EV is purchased and there is no carry-over value if any of the credit is not utilized in that tax year.

Just how important are government subsidies for the success so far, and likely future success, for EVs? In the last *Musings*, we wrote about the success of EVs in achieving the status of a mainstream technology, as defined by Everett Rogers in his book, Diffusion of Innovations, published in 1962.

**Exhibit 1. How Technology Becomes Mainstream**




**Source: Everett Rogers, Diffusion of Innovations, 1962**

As a technology moves beyond the Innovators and Early Adopters and into the Early Majority, as shown in Exhibit 1 (prior page), it is acknowledged to have achieved mainstream technology status. As we pointed out, 28.9% of new car sales in Norway in the first half of 2017 were EVs. This puts the country on track to reaching an estimated 32% EV market share for all of 2017. This would be well past Dr. Rogers theory for mass market adoption occurring after the first 15%-18% of the market has bought into a technology.

**Norway was leading the EV world, and had become the third largest EV market after China and the United States**

In our article, we presented Exhibit 2 prepared by *ev-volumes.com*, which showed the top 20 markets for EVs through the first half of 2017. We pointed out how Norway was leading the EV world, and had become the third largest EV market after China and the United States. The disparity between this EV market leader and the two largest economies of the world cannot be ignored. Note that the second market measured by the highest EV penetration rate is Hong Kong, which is geographically tiny compared to Norway, and miniscule against the Chinese and U.S. markets. The top 20 list provides interesting comparisons that we thought we would explore for indications of what it takes for EVs to be successful in a country.

**Exhibit 2. Top EV Markets Globally**

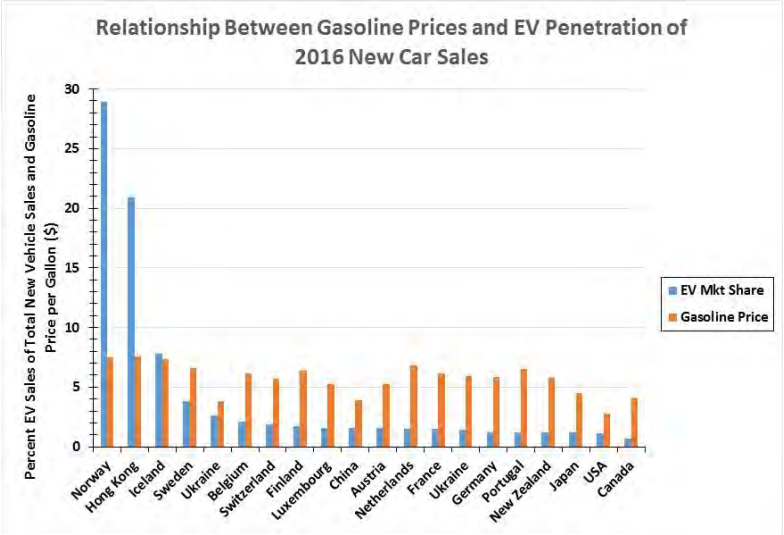
| Top-20 PEV Shares | | H1-2017 |
|---|---|---|
| 1 | Norway | 28,9% |
| 2 | Hong Kong | 20,9% |
| 3 | Iceland | 7,8% |
| 4 | Sweden | 3,8% |
| 5 | Ukraine | 2,6% |
| 6 | Belgium | 2,1% |
| 7 | Switzerland | 1,9% |
| 8 | Finland | 1,7% |
| 9 | Luxembourg | 1,6% |
| 10 | China | 1,6% |
| 11 | Austria | 1,6% |
| 12 | Netherlands | 1,5% |
| 13 | France | 1,5% |
| 14 | UK | 1,4% |
| 15 | Germany | 1,2% |
| 16 | Portugal | 1,2% |
| 17 | New Zealand | 1,2% |
| 18 | Japan | 1,2% |
| 19 | USA | 1,1% |
| 20 | Canada | 0,7% |

**Source: *ev-volumes.com***

**The closest relationship we found appears to be between the EV penetration rate and the price of gasoline**

To examine the characteristics of these markets, we prepared a spreadsheet comparing the 20 markets by: population; land mass; population density; 2016 new car sales; vehicles per 1,000 population; gasoline prices; kilometers of paved roads, highways and unpaved roads; and, the number of people per kilometer of paved roads and the total roadway system. As expected, the data provided a wide range of rankings, but largely little commonality in characteristics as a guide to EV acceptance. The closest relationship we found appears to be between the EV penetration rate and the price of gasoline, which plays into the economic competitiveness of EVs versus traditional internal combustion engine cars (ICE).

**Exhibit 3. High Gas Prices Encourage EV Ownership**




**Source: PPHB**

Gasoline prices are the highest in Norway, Hong Kong, Iceland and Sweden, and so are those respective markets' EV penetration rates. The first divergence appears with Ukraine, where gasoline prices are low and EVs are prevalent. One might ask how Ukraine achieved such a high EV penetration rate. It is important to note that the Ukraine car market is only about 75,000 vehicles a year. The analysis of Ukraine's success starts with it having the second-lowest number of vehicles per 1,000 people, only about 70 ahead of China, which has the lowest ratio. Surprisingly, Ukraine ranks 13th in population density (people per square mile), but it is 3rd in the ratio of people per kilometer of paved roads, trailing only Hong Kong and China. In other words, it is likely there are lots of people where there are paved roads and also lots of congestion. This becomes an ideal environment to sponsor EVs. Surprisingly, the EV market in Ukraine has been imported used EVs, as new car sales are not subsidized and manufacturers have been leery of entering the market. Three manufacturers did enter this year, and the government is developing subsidy schemes to help accelerate the market's development. It would appear that the Ukraine market is driven by EV enthusiasts rather than purely financial calculations, but that may be changing.

**It is important to note that the Ukraine car market is only about 75,000 vehicles a year**

When we looked at the comparison of Norway with its nearest competitor, Hong Kong, there is a world of difference, starting with population density. Hong Kong has 7.4 million people in 0.4 square miles of area, for a population density of 18.5 million people per square mile. In contrast, the 5.3 million Norwegians are spread over 117 square miles, yielding a population density of slightly over 45,000 people per square mile. While Norway has fewer people and more land mass, its population tends to be concentrated in urban areas, raising the population density much higher than a national average would suggest. But the key similarity has been the

**While Norway has fewer people and more land mass, its population tends to be concentrated in urban areas**

aggressive tax and operational subsidies offered to residents to encourage them to either buy or lease EVs for congestion and environmental reasons.

**The decision to halt the subsidy came following protests by German car manufacturers that the market was "owned" by Tesla**

It will be interesting to see how Hong Kong's EV rating changes now that the government has decided to stop subsidizing them. The decision to halt the subsidy came following protests by German car manufacturers that the market was "owned" by Tesla (TSLA-Nasdaq) because only battery EVs were subsidized. German car manufacturers have been providing plug-in hybrids. As a result, Tesla had about 80% of the EV market. The cessation of the subsidy in April has raised the cost of Tesla cars by between 50% and 80%. Will Hong Kong's EV penetration rate follow the others who have ended subsidies, and fall?

To make it easier for readers to examine our spreadsheet, we have divided it into two parts (easier on the eyes). This enables comparison of the top 20 EV markets by the various measures.

**Exhibit 4. How Gasoline Prices And EV Rates Compare**

| Rank | Top 20 PEV Shares | H1-2017 (%) | Motor Vehicles per 1,000 People | Motor Vehicle Intensity Rank* | 2016 New Car Sales (1,000) | Gasoline Prices** ($/Ltr) | Gasoline Prices** ($/gal) |
|---|---|---|---|---|---|---|---|
| 1 | Norway | 28.9 | 584 | 17 | 198 | 1.99 | 7.53 |
| 2 | Hong Kong | 20.9 | 77 | 117 | 46 | 2.01 | 7.61 |
| 3 | Iceland | 7.8 | 745 | 6 | 21 | 1.95 | 7.38 |
| 4 | Sweden | 3.8 | 520 | 33 | 432 | 1.74 | 6.59 |
| 5 | Ukraine | 2.6 | 202 | 73 | 75 | 1.01 | 3.82 |
| 6 | Belgium | 2.1 | 559 | 24 | 618 | 1.62 | 6.13 |
| 7 | Switzerland | 1.9 | 566 | 22 | 356 | 1.51 | 5.72 |
| 8 | Finland | 1.7 | 612 | 14 | 136 | 1.68 | 6.36 |
| 9 | Luxembourg | 1.6 | 739 | 8 | 56 | 1.39 | 5.26 |
| 10 | China | 1.6 | 154 | 92 | 28,028 | 1.03 | 3.90 |
| 11 | Austria | 1.6 | 578 | 18 | 375 | 1.39 | 5.26 |
| 12 | Netherlands | 1.5 | 528 | 31 | 469 | 1.81 | 6.85 |
| 13 | France | 1.5 | 578 | 19 | 2,478 | 1.63 | 6.17 |
| 14 | Ukraine | 1.4 | 519 | 34 | 3,124 | 1.56 | 5.91 |
| 15 | Germany | 1.2 | 572 | 20 | 3,709 | 1.55 | 5.87 |
| 16 | Portugal | 1.2 | 548 | 25 | 347 | 1.73 | 6.55 |
| 17 | New Zealand | 1.2 | 774 | 4 | 147 | 1.52 | 5.75 |
| 18 | Japan | 1.2 | 591 | 16 | 4,970 | 1.18 | 4.47 |
| 19 | USA | 1.1 | 797 | 3 | 17,866 | 0.74 | 2.80 |
| 20 | Canada | 0.7 | 662 | 12 | 1,984 | 1.07 | 4.05 |

**Source: PPHB**

**Exhibit 5. Other Measures Of EV Potential Success**

| Top 20 PEV Shares | H1-2017 (%) | Land Mass (sq mi) | Population (mm) | Population Density (pop/sq mile) | Total Paved Roads*** (km) | Total Highway Roads*** (km) | Total Unpaved Roads*** (km) | People/km of Paved Roads |
|---|---|---|---|---|---|---|---|---|
| Norway | 28.9 | 117 | 5.3 | 45,299 | 75,754 | 393 | 18,116 | 70 |
| Hong Kong | 20.9 | 0.4 | 7.4 | 18,500,000 | 2,100 | - | - | 3,524 |
| Iceland | 7.8 | 39 | 0.35 | 8,974 | 4,782 | - | 8,108 | 73 |
| Sweden | 3.8 | 158 | 10.1 | 63,924 | 140,100 | 2,050 | 433,034 | 72 |
| Ukraine | 2.6 | 224 | 42.4 | 189,286 | 166,095 | 17 | 3,599 | 255 |
| Belgium | 2.1 | 12 | 11.4 | 950,000 | 120,514 | 1,756 | 33,498 | 95 |
| Switzerland | 1.9 | 15 | 8.4 | 560,000 | 71,464 | 1,415 | - | 118 |
| Finland | 1.7 | 117 | 5.5 | 47,009 | 50,000 | 700 | 28,000 | 110 |
| Luxembourg | 1.6 | 1 | 0.6 | 600,000 | 2,899 | 152 | - | 207 |
| China | 1.6 | 3,601 | 1,387.4 | 385,282 | 4,046,300 | 123,500 | 531,000 | 343 |
| Austria | 1.6 | 32 | 8.8 | 275,000 | 138,696 | 2,208 | - | 63 |
| Netherlands | 1.5 | 13 | 17.2 | 1,323,077 | 139,124 | 3,654 | - | 124 |
| France | 1.5 | 247 | 67.2 | 272,065 | 1,028,446 | 11,416 | - | 65 |
| Ukraine | 1.4 | 93 | 65.6 | 705,376 | 394,428 | 3,519 | - | 166 |
| Germany | 1.2 | 135 | 82.8 | 613,333 | 645,000 | 12,800 | - | 128 |
| Portugal | 1.2 | 35 | 10.3 | 294,286 | 71,294 | 2,613 | 11,606 | 144 |
| New Zealand | 1.2 | 101 | 4.8 | 47,525 | 62,759 | 199 | 32,143 | 76 |
| Japan | 1.2 | 141 | 126.7 | 898,582 | 992,834 | 8,428 | 225,937 | 128 |
| USA | 1.1 | 3,532 | 326.1 | 92,327 | 4,304,715 | 76,334 | 2,281,895 | 76 |
| Canada | 0.7 | 3,511 | 36.7 | 10,453 | 415,600 | 17,000 | 626,700 | 88 |

**Source: PPHB**

**This suggests it will be much more difficult to mandate and effect massive vehicle fleet shifts in favor of EVs in much larger markets without significant government subsidies and/or mandates**

At the end of the day, it seems that smaller markets are clustered at the higher end of the EV penetration ranking. This suggests it will be much more difficult to mandate and effect massive vehicle fleet shifts in favor of EVs in much larger markets without significant government subsidies and/or mandates, as well as significant infrastructure investment in EV charging facilities. That latter consideration has yet to receive the amount of public attention likely needed in order to mobilize society to embrace EVs. Meaning, people must be willing to see a portion of their tax dollars directed toward building a sufficient EV charging infrastructure to encourage more people to buy EVs. Without that government commitment, private enterprise will be cautious in its investments; not wanting to get too far ahead of the shift in the vehicle fleet mix, to attempt to avoid negative financial returns. The future of charging station investments may need to be public-private ventures to succeed.

**A survey of Norwegian EV drivers showed that the tax exemptions were their number one consideration**

A recent study of the top five European countries for EVs showed some interesting points to consider in assessing the pace of EV acceptance. A survey of Norwegian EV drivers showed that the tax exemptions were their number one consideration. Fortunately, the high tax the government charges for high-emission ICE vehicles generates the money necessary to fund the tax credits for EV purchases, making the cars similar in cost and not lifting citizens' taxes appreciably.

**Norway has 2.4 charging stations for every 1,000 registered vehicles**

Another consideration helping EV penetration in Norway is that 96% of owners have access to charging stations in either their homes or apartments. Additionally, there is an extensive nationwide charging system for those owners without direct access or for those EVs traveling long distances. Norway has 2.4 charging stations for every 1,000 registered vehicles, which is more than twice as many as in

the Netherlands, the European nation in second place. Norway has eight, 12, or 24 times the number of charging stations per 1,000 vehicles as in the UK, Germany, and France, respectively. In all of these countries, electricity costs are within a similar range, as well as the price of gasoline, so ease of access to charging stations has to be a factor in EV market penetration.

**An 'electric highway' of 'ultra-fast charging stations' connecting Norway to Italy**

European electric utility company E.ON has just announced plans for expanding its charging stations across Europe, including an 'electric highway' of 'ultra-fast charging stations' connecting Norway to Italy. The stations will be located every 120-180 kilometers along highways. Each station will have 2-6 units offering 150 kilowatts (kW) of charging, with a potential for upgrades to 350 kW. The ultra-fast charging stations will initially enable charging of a full 400-km range battery in only 20-30 minutes, which can be reduced as charging capacity increases and vehicle technology evolves.

**Plug-in hybrids are becoming more popular than battery-only EVs**

The interesting point from the European study was understanding that plug-in hybrids are becoming more popular than battery-only EVs, as owners hedge against range-anxiety with their battery charges. We found that interesting as it seems to support the view of Toyota Motor Company's (TM-NYSE) chairman who has spoken out about hybrid technology ultimately winning out over battery EVs. That was why Toyota pushed the development of hybrids with the Prius, a decade ago. His vision is another reason why we would not under-estimate the eventual success of Toyota's hydrogen fuel cell powered vehicles as the ultimate "clean" vehicle technology.

**In most cases, countries are still dealing with EV enthusiasts**

From the data of these countries, it seems that subsidies and access to charging stations are the critical ingredients for the success of EVs, at least in Europe, where urban living dominates and distances traveled are relatively short. Clearly, as our spreadsheet shows, there are many other considerations about the countries, such as driving distances and consumer attitudes that come into play in determining EV success. In most cases, countries are still dealing with EV enthusiasts, so government policies will be the true driver of success until the economics of EVs improve further.

## Natural Gas Market Prepares For 2017-2018 Winter Season

**It also may signal that the market is comfortable about its ability to respond to a blast of cold air**

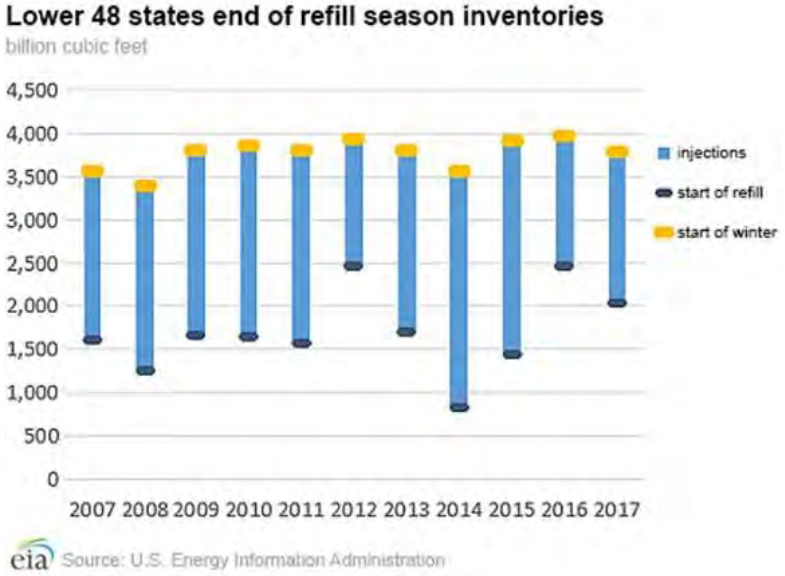
Currently, natural gas prices are sitting about where they have been for much of 2017, or at least since late spring. At around the $3 per thousand cubic foot level, prices show no signs of moving materially higher or lower in the near-term. That may be due to the lack of significant cold weather anywhere in the United States so far this fall, but it also may signal that the market is comfortable about its ability to respond to a blast of cold air based on gas storage levels, monthly gas production volumes, and the safety valve of liquefied natural gas (LNG) exports.

The Energy Information Administration published a chart of the history of gas injection seasons now that the data for October 31st is available. The injection season extends from April 1st to the end of October. We ended this injection season with storage about 58 billion cubic feet (Bcf), or 2%, lower than the five-year (2012–16) end-of-October average. Final storage was 193 Bcf, or 5%, below the record-setting 3,977 Bcf storage volume of last year.

**As natural gas production continues to grow, and most gas consumers have alternative energy supply options available, it is not surprising that gas prices are sitting at about where they have been for most of the year**

While gas storage volumes ended below last year's level, as well as those of 2015 and 2012, the amount is comparable to where the withdrawal season starts were for 2009-2011 and 2013, and above the 2007 and 2008 starting levels. Should this storage level provide comfort for gas consumers? As natural gas production continues to grow, and most gas consumers have alternative energy supply options available, it is not surprising that gas prices are sitting at about where they have been for most of the year.

**Exhibit 6. Natural Gas Storage Volume Seem Adequate**

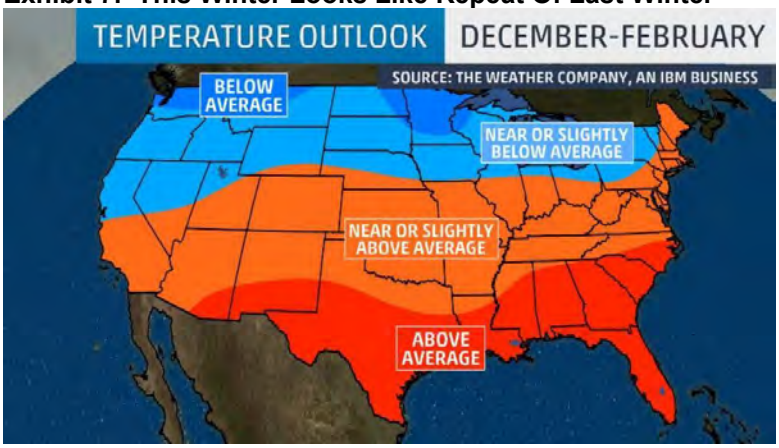



**Source: EIA**

**This winter may mirror that of last year**

The winter temperature forecasts from the National Oceanic and Atmospheric Administration (NOAA) and The Weather Company suggest this winter may mirror that of last year – early cold weather in the east, gradually moving west as the winter season unfolds. Temperatures in the South are expected to be at, or above average for this winter. The outlook is driven partially by the expectation that we will experience weak La Niña weather effects. As Dr. Todd Crawford, chief meteorologist with The Weather Company put it, "As is typical in La Niña base state winters, we expect the greatest risk of cold early in the winter in the eastern U.S., with the cold retreating towards the Pacific Northwest as the winter progresses."

**Exhibit 7. This Winter Looks Like Repeat Of Last Winter**




**Source: The Weather Company**

**The key to a third record warm winter will depend on whether there are more blocking weather systems in the upper atmosphere**

Two of the 10 warmest winters since 1895 experienced in the Lower 48 states have occurred back-to-back in the past two years. Last winter was the seventh warmest, while 2015-2016 was an all-time record winter for warmth. The key to a third record warm winter will depend on whether there are more blocking weather systems in the upper atmosphere, according to Dr. Crawford.

It is possible under one scenario that a blocking weather system brings a southward dip in the jet stream east of the Rocky Mountains, which could become stationary for an extended period of time, bringing Arctic cold weather into the central and eastern portions of the nation. That would be good news for gas producers. On the other hand, if there were fewer blocking weather systems then this winter could be similar to last year's, with only the Pacific Northwest experiencing below-average temperatures. As we start this winter, the weather forecast isn't very favorable for the natural gas market. But that could all change, courtesy of the jet stream.

## What If Trump Is Right That Climate Change Is A Hoax?

**U.S. environmental representatives to the conference were jeered and derided over President Trump's action**

The Conference of the Parties to the 1992 UN Convention on Climate Change has just concluded its meeting in Bonn, Germany to assess the progress of members in implementing the convention, and to assess the status of climate change. This is the agreement former U.S. President Barack Obama committed the United States to, and from which President Donald J. Trump is withdrawing the country. U.S. environmental representatives to the conference were jeered and derided over President Trump's action.

Climate change remains a "hot button" topic. Is climate change real, or a hoax? Will the planet and mankind be destroyed by the continued addition of carbon emissions to the atmosphere, or will the climate change slowly, enabling the planet and humans to adjust?

**There are lots of questions, and no answers – only computer model projections**

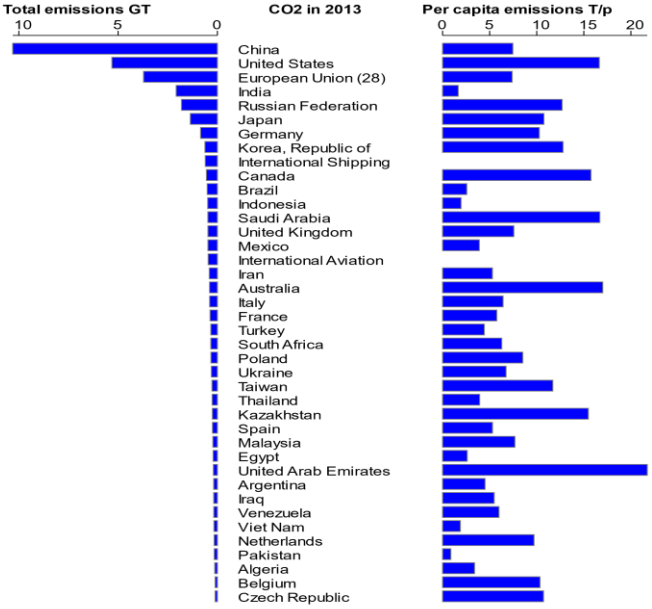
Is carbon dioxide ($CO_2$) the principal driver of climate change, or does the sun exercise greater influence over long-term climate patterns? Should we be bracing for an Armageddon due to overheating of the atmosphere from too much $CO_2$, or are we on the precipice of the next Little Ice Age given the lack of sunspot activity? There are lots of questions, and no answers – only computer model projections.

**Today, the largest polluting country is China, although on a per capita basis the United States is the largest major country polluter**

Our purpose isn't to debate climate science, but rather to consider whether the issue is being used more as an economic weapon than a moral question. There is a moral case to be made about climate change and the possibility of reordering our lives to reduce pollution. That case began centuries ago when societies worked to bring clean water to villages and to control human wastes. Cleansing our water of industrial wastes and improving our atmosphere by restricting polluting emissions is a well-established social goal. Today, the largest polluting country is China, although on a per capita basis the United States is the largest major country polluter. But the two countries happen to have the world's two largest economies. See Exhibit 8 on next page.

Pollution as a social issue has existed since well before the industrial age was born in the late1800s. Europe, because of its early history has been highly energized to deal with climate issues. That energy is morphing into anger now, and it is becoming a serious social problem within the European Union as some of its members struggle with the growing cost of clean energy mandates and the economic harm being inflicted on their citizens.

**Exhibit 8. U.S. And China Top Carbon Emission Rankings**




**Source:** ***Wikimedia***

**That book awakened people to the spoliation of the environment going on around them**

Environmentalism as a recent social/political movement re-emerged in the 1950s in response to localized events such as the Great London Fog of 1952, oil tanker accidents off the coast of Europe, oil spills offshore California and in the Gulf of Mexico, the Love Canal fire in upstate New York, acid rain, the ozone hole, and growing resource shortages. As these events were occurring, various scientific and educational advances spurred the establishment of greater networks enabling speedier communications of environmental fears. The seminal event in the early environmental movement occurred in 1962 when Rachel Carson published her book, The Silent Spring, warning of the dangers of DDT, the world's foremost insecticide for eliminating mosquitoes and preventing the spread of malaria. That book awakened people to the spoliation of the environment going on around them. It crystalized the view that there was economic and social downside to potential "miracle" chemicals and drugs, and it set in motion the formation of global environmental groups. The mood of nations shifted behind Ms. Carson, who was relatively weak in science but strong in literary motivation. In the U.S., the environmental movement was helped by the dark mood of the populous dealing with the emotional and economic scars of the Vietnam War. It has been said that The Silent Spring was to the environmental movement as Uncle Tom's Cabin was to the abolitionist effort nearly a century prior.

**Due to that decision, some 40 years later, malaria has returned as a significant health issue in many tropical countries around the world, after having nearly been eradicated in the 1970s**

On April 22, 1970, the first Earth Day was celebrated as 20 million Americans rallied in cities across the nation. Surprisingly, it was a Republican U.S. President, Richard Nixon, who created the Environmental Protection Agency (EPA), by amalgamating various offices within numerous governmental departments, each dealing with environmental matters. President Nixon's move had bi-partisan Congressional support, which made it easy to achieve, thus empowering the new agency to become the federal environmental enforcer the states had been seeking. William D. Ruckelshaus, a former Indiana Congressman and an accomplished government official, was appointed as the first Administrator of the agency. In an effort to demonstrate his "firm" regulatory focus, Mr. Ruckelshaus bowed to public sentiment, and over-turned the EPA scientists' research, and banned the use of DDT. Due to that decision, some 40 years later, malaria has returned as a significant health issue in many tropical countries around the world, after having nearly been eradicated in the 1970s.

**The Limits to Growth, setting forth the catastrophic future of over-population and destructive economic growth policies**

At the same time, environmentalism was strongly embraced by countries in Europe, partly in response to the growing movement of youths attacking materialism and consumerism. Those youths were often challenging the idea of promoting unrestricted economic growth, citing the problems that growth was causing in countries and regions of the world, and concerns over the long-term implications of continued uncontrolled growth. The movement was popularized by The Club of Rome and its output, which was captured in the 1972 book, The Limits to Growth, setting forth the catastrophic future of

over-population and destructive economic growth policies. That book helped promote environmental consciousness, which were, in essence, a rejection of Keynesian capitalism and an endorsement of socialism with its government 'command and control' feature.

**Regulation usually was credited with creating solutions to the problems, but often the solutions were developed by businessmen who recognized that environmental accidents and health problems would hurt their company's images and, importantly, their profits**

The 1970s was a period during which the environmental movement was largely focused on cleaning up past problems, but also often trying to figure out how to prevent future ones. In most cases, the remedies involved increased regulation of businesses, the perceived culprits in these environmental disasters. Regulation usually was credited with creating solutions to the problems, but often the solutions were developed by businessmen who recognized that environmental accidents and health problems would hurt their company's images and, importantly, their profits. An example in the oil industry was its response to the offshore California and Gulf of Mexico oil spills. Downhole safety valves existed but had never been installed in every offshore producing well, which would have prevented the leaks. As the regulators pushed for their installation, the oil industry recognized that such a move was in its best interest in terms of saving the money it cost a company to clean up an oil spill and pay the resulting fines, as well as the reputational damage such events inflicted on companies.

**During the 1970s, meteorologists began to become concerned about the potential for another ice age**

From a climate change perspective, during the 1970s, meteorologists began to become concerned about the potential for another ice age, as global temperatures, which had begun to decline in 1940 continued to fall. Scientists began identifying $CO_2$ as a greenhouse gas element whose increased presence in the atmosphere would influence the future climate. The problem was that these scientists were not certain of the direction of its influence. Research papers were published claiming that increased $CO_2$ would contribute to a warming of the planet by trapping heat in the

**Exhibit 9. The View Of Scientists During The 70s Decade**


**Source:** ***Time***

atmosphere. At the same time, other studies discussed the role pollution would play in reflecting sunlight and making our atmosphere darker, leading to increased global cooling. The decade of the 1970s was popularized by magazine covers dealing with the growing prospect of another ice age.

**Events during the 1970s may have created a much greater long-term impact on the future of energy use and climate concerns than previously appreciated**

Notice that the years of these two *Time* magazine covers (prior page) – 1973 and 1979 – happen to coincide with pivotal years in the history of energy geopolitical events. Both years saw politically inspired, artificially created oil supply shortages that sent global oil prices skyrocketing and set America, as well as the rest of the developed world, on the dual course of boosting oil supplies from more politically-stable regions and revamping domestic economies to dramatically improve energy efficiency and reducing future oil dependency. In hindsight, events during the 1970s may have created a much greater long-term impact on the future of energy use and climate concerns than previously appreciated.

While America struggled with its energy balance, the U.S. proved to be better off than Europe due to our abundance of energy resources. What Americans failed to realize was that every policy action by energy regulators that attempted to address market problems caused by prior supply and/or price issues, did little to help cure the problem because they merely created future issues. This history proved particularly devastating for the natural gas pipeline business that bounced from shortages to surpluses to bankruptcies, as the industry regulators struggled to ensure adequate gas supply.

**Had the government outlawed horses for urban transport and instead backed the earliest technological alternative available, we would be driving steam-powered vehicles today**

Further demonstrating the futility of government regulation and attempts to select technology winners or losers, a recent op-ed in *The Wall Street Journal* discussed the transition from horses to horseless carriages as an example of letting markets solve the problem. That transition occurred rapidly, but it was done in response to market forces and superior technological solutions, rather than government choice. As the article's authors pointed out, had the government outlawed horses for urban transport and instead backed the earliest technological alternative available, we would be driving steam-powered vehicles today. In the interim, the government would have incentivized more steam-powered vehicles and subsidized research into improving them. Instead, the more powerful and efficient gasoline engine prevailed and became the market standard – all without government involvement.

The scene in Europe was quite different. Social and economic development attitudes in Europe following World War II were very different from those in the United States. These attitudes may have unknowingly sponsored the global environmental push being led by Europe.

There is an interesting chapter in Joseph Stanislaw and Daniel Yergain's book, The Commanding Heights: The Battle for the World

**Europe's search for a new social contract following the end of the World War II**

Economy, which sets out the history of events that sparked Europe's search for a new social contract following the end of the World War II. The story begins in 1941 on the island of Ventotene, off the coast of Italy, where Altiero Spinelli and two fellow prisoners begin writing a manifesto for a new, united Europe. At the time, Adolf Hitler's armies were sweeping across the continent, so this vision seemed destined to be fulfilled by German power. That foreordained outcome failed as the Allies rallied and defeated the Germans and their supporters. What was left of Europe after the war was a devastated continent, which eventually led to the United States establishing the Marshall Plan to revive Europe. Rebuilding the continent was seen as the least costly and quickest way to fulfill the moral obligation America assumed for putting the world back together again, as the only major world economy not devastated by the war.

**To defuse the potential for a renewed struggle between these two historic enemies, the European Coal and Steel Community (ECSC) was established**

One of the traditional flashpoints for prior hostilities on the continent was the distribution of coal resources and the needs of both the French and German steel industries – critical to their countries' economic success – to thrive. At the end of the war, Germany's steel industry was destroyed, but the country held large coal resources. France had a relatively healthy steel industry but lacked adequate coal resources to power it. To defuse the potential for a renewed struggle between these two historic enemies, the European Coal and Steel Community (ECSC) was established with decision-making power over the allocation of coal resources to the respective steel industries seeded to a trans-national authority, in keeping with the philosophy of assigning greater command and control authority to government.

**The six countries agreed to form a common economic market, with plans for a unified currency and other common functions**

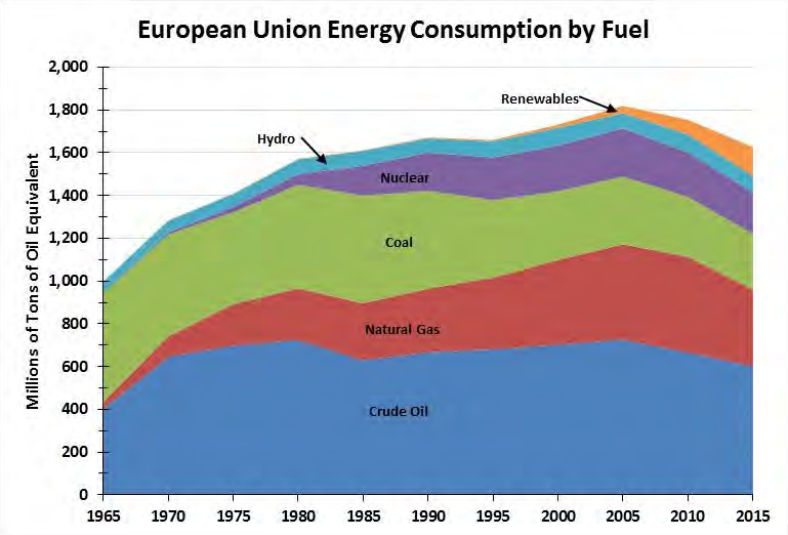
The success of the ECSC and the Marshall Plan, and the vision of Spinelli and Jean Monnet, who headed the French reconstruction effort, led to the creation of the European Economic Community (EEC) in 1957, when Germany, France, Italy, Belgium, the Netherlands, and Luxembourg signed the Treaty of Rome. The six countries agreed to form a common economic market, with plans for a unified currency and other common functions. The EEC absorbed the ECSC, and used its institutional structure as the core for governing the new, unified government. What was evident, although not focused on initially, was the weak energy supply condition of the new EEC.

**The Suez conflict highlighted the critical role the canal played as a supply route for the growing volume of crude oil finding its way to western markets**

A year before the Treaty of Rome was signed, the Suez Crisis had erupted forcing Britain and the United States to become actively involved in Middle East geopolitics to ensure the world continued to have open access to the canal. The Suez conflict highlighted the critical role the canal played as a supply route for the growing volume of crude oil finding its way to western markets. To achieve continued growth, the EEC signaled it would depend on unfettered access to world oil resources, especially those of the Middle East and Asia.

In 1970, a few years short of the first major expansion of EEC membership, slightly over 50% of its energy consumption came from oil, while 37% came from coal. Natural gas, largely from the gas fields in the Netherlands and offshore in the Southern North Sea, supplied nearly 7.5% of total EEC consumption, and hydro provided slightly over 4%. Nuclear power added 0.8% and renewables contributed 0.1% to energy supply. The problem was that oil consumption in the EEC was nearly 19 times its members' production.

**Exhibit 10. Evolution Of Energy Supplies For European Union**




**Source: BP, PPHB**

**Renewables emerged as an energy source starting in the late 1990s and continues growing today as total EEC energy consumption declines**

Using data from BP plc (BP-NYSE), we have constructed a chart (Exhibit 10, prior page) showing how the EEC's fuel consumption mix has changed over time at five-year increments. We would note several points: 1) Total energy consumption grew from 1965 (earliest data) to a peak in the mid-2000s. 2) Oil's use peaked at the start of the 1980s. 3) Oil's share peaked at about the same time as oil. 4) The share of nuclear power became measurable at the start of the 1980s, and peaked in the mid-2000s. 5) Renewables emerged as an energy source starting in the late 1990s and continues growing today as total EEC energy consumption declines.

**The continent has sufficient coal resources, but 70% of these resources are sub-bituminous and lignite, the dirtiest of the coals**

When we consider the EU's energy supply situation, it is important to note that the continent has almost always lacked sufficient oil and natural gas reserves to support its consumption growth. The continent has sufficient coal resources, but 70% of these resources are sub-bituminous and lignite, the dirtiest of the coals. It is also noteworthy that in the EU's early history it had a huge imbalance between its oil production and consumption. On the other hand, the EU's natural gas production and consumption were about equal. With the expansion of the EU in the early 1970s, when the UK, Ireland, and Denmark entered, the oil imbalance improved sharply:

falling from about a 20-times consumption to production imbalance to only about four-times. The improvement reflected the addition of British and Danish North Sea oil and gas reserves and production, which were growing rapidly in response to the jump in oil prices in 1973. The balance between natural gas consumption and production that existed in the EEC's early history gradually swung to a consumption deficit that approached two-times the production volumes. Today, the gas imbalance has reached nearly four-times, while the oil imbalance has climbed to a ratio of eight times.

**The natural gas supply imbalance was ameliorated by European utilities negotiating to purchase significant gas volumes from Russia**

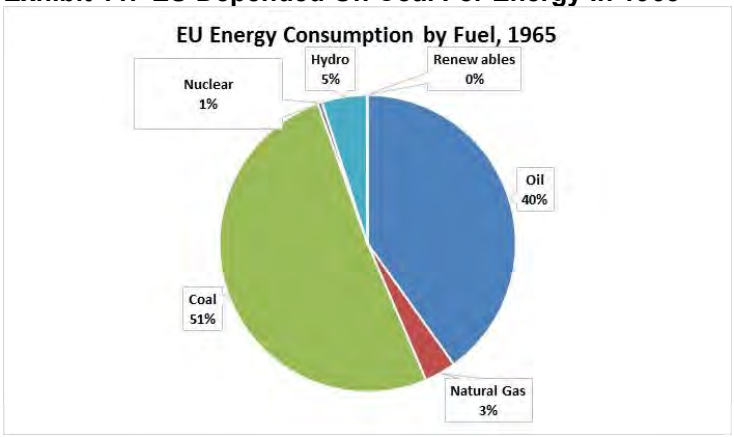
The natural gas supply imbalance was ameliorated by European utilities negotiating to purchase significant gas volumes from Russia. By the early 2000s, Russian gas was meeting roughly 30% of Europe's consumption. About 80% of this volume was flowing through pipelines that transited Ukraine. As Ukraine's government moved to align itself closer to the EU and NATO, Russia's political dissatisfaction was reflected by efforts to sharply raise the price of gas sold to Ukraine from $50 per 1,000 cubic meters, to $230 in late 2005. Ukraine refused to pay and Russia turned off the taps on January 1, 2006. Shortly thereafter, Austria, France, Germany, Hungary, Italy and Poland soon reported gas pressure in their own pipelines was down by as much as 30%, as Ukraine retained supplies destined for the others. This dispute was eventually resolved with a higher price negotiated for gas sold to Ukraine, but the issue resurfaced in 2009.

**It now takes more gas from Norway, while also constructing liquefied natural gas (LNG) import terminals in Poland and Latvia**

Europe has worked to eliminate its dependence on gas flowing through Ukraine by building the Nord Stream pipeline to move gas directly from Russia to Europe via Belarus and a pipeline under the Baltic Sea. Plans were to construct additional subsea pipelines to move more gas directly to Europe and bypass Ukraine, but these have now been abandoned as Europe has diversified its supply sources in other ways. It now takes more gas from Norway, while also constructing liquefied natural gas (LNG) import terminals in Poland and Latvia. Europe has also improved its gas storage network to minimize risk due to supply disruptions.

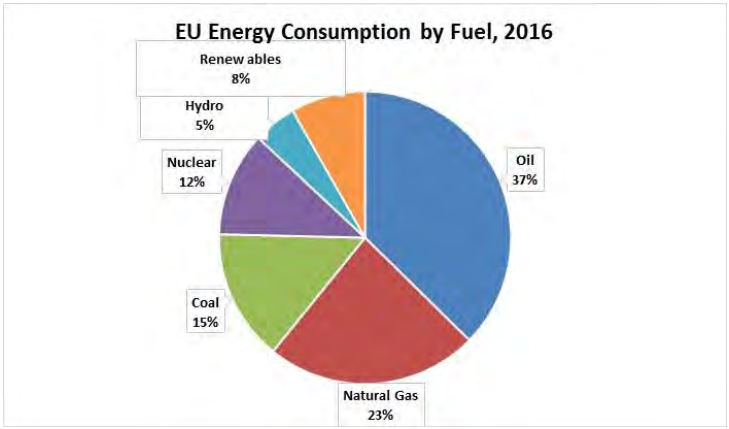
The two charts on the next page show how the share of the EU's energy consumption mix has changed between 1965 and 2016.

**Exhibit 11. EU Depended On Coal For Energy In 1965**




**Source: BP, PPHB**

**Exhibit 12. EU Coal Use A Fraction Of 1965 Volumes**




**Source: BP, PPHB**

**Nuclear, which accounted for 12% of energy supply in 2016, will likely shrink given decisions by Germany and France to close their nuclear power plants**

The major change is that oil's share has declined, but it now represents the largest energy market share today. Coal, which held the leading market share position in 1965, now represents less than one-third of that peak share. The market share of natural gas has grown considerably over time and may grow further in the future. Nuclear, which accounted for 12% of energy supply in 2016, will likely shrink given decisions by Germany and France to close their nuclear power plants.

**The EU is dependent on oil imports, which exposes it to higher prices and potential supply disruptions, a risk it has faced for decades**

The EU's dependence on Russian natural gas supplies remains a point of tension, but its more diversified supply network is minimizing politically-motivated supply disruptions. On the other hand, the EU is dependent on oil imports, which exposes it to higher prices and potential supply disruptions, a risk it has faced for decades. At the present time, the EU consumes only about half its coal output, but since most of it is dirty, increasing consumption would work against the climate change commitments of its member countries. Germany's need to increase coal use to offset its clean energy

scheme has the country at odds with its fellow EU members over its environmental commitment.

**In this system, state-directed "choice architecture" drives improved public policy outcomes by influencing the behavior of people through clever framing techniques**

If we go back to the late 1980s, many of these energy supply trends and risks were becoming clear. This is where a conspiracy theory might emerge. The idea of a conspiracy theory is born from the research at that time leading to the popularization of 'behavioral economics', championed by Professor Richard Thaler, the latest to win the Nobel Prize in Economics. His research became popular with his collaboration with Cass Sunstein, an advisor to President Obama, in the book Nudge, where they describe a system of "libertarian paternalism." In this system, state-directed "choice architecture" drives improved public policy outcomes by influencing the behavior of people through clever framing techniques. In other words, figure out what outcome you want to achieve and set up a choice mechanism that seemingly forces people to make the choice government desires.

**The EU is composed primarily of wealthy countries, but characterized by rapidly aging demographics**

The EU is composed primarily of wealthy countries, but characterized by rapidly aging demographics. That will translate into reduced energy needs, but will require greater government revenue to support the aging population. It means more taxes on industry, so lowering their energy cost differential versus the United States and elsewhere will help European industries to remain competitive.

**To compete in world markets, German industries need a favorable currency and a low-cost manufacturing structure**

The EU's economic powerhouse is Germany, which depends on exports for its manufacturing sector. To compete in world markets, German industries need a favorable currency and a low-cost manufacturing structure. The common EU currency – the Euro – can be manipulated by the organization's financial regulators. The low-cost manufacturing challenge is more problematic given the EU's exposure to sharply higher energy costs and potentially supply disruptions. The solution? Create a more level playing field by forcing world economic powers off their cheap domestic energy. One way to do that is to embrace climate change and use its moral argument for action to end the use of fossil fuels in order to avoid an environmental disaster as an economic weapon. Renewable energy is presented as a preferable long-run energy sources, despite data showing it to be costlier. This is because the real agenda is to force the economic beneficiaries of cheap fossil fuels onto the EU's energy cost platform.

**Throughout its history, Europe has spawned numerous crusades – some with a capital "c" and some with a small "c"**

Given Europe's social history and its economic and political structure, it was primed to undertake such an environmental crusade. Throughout its history, Europe has spawned numerous crusades – some with a capital "c" and some with a small "c". Creating a crusade for cleaning up the atmosphere and protecting the world against a future environmental calamity as a moral issue made it easy to implement an economic program that pushes all leading economies onto a common, high-cost energy structure.

**Exhibit 13. Current Membership Of European Union**


**Source:** ***Wikipedia***

The EU has not concerned itself with the moral argument that fossil fuels have delivered untold benefits to hundreds of millions of people who were living in poverty, and that the continued use of fossil fuels will lift millions more out of poverty in the future. Accepting that argument would force the EU to compromise its efforts [if we are correct about its members' intentions] to raise global energy costs, and thus their competitive position among the leading economies. That agenda has significant long-term implications for EU members.

**That emissions performance disparity set the stage for the EU, with Germany's leadership influence, to begin pushing the climate research linking carbon emissions from fossil fuels with increased global warming and worsening weather**

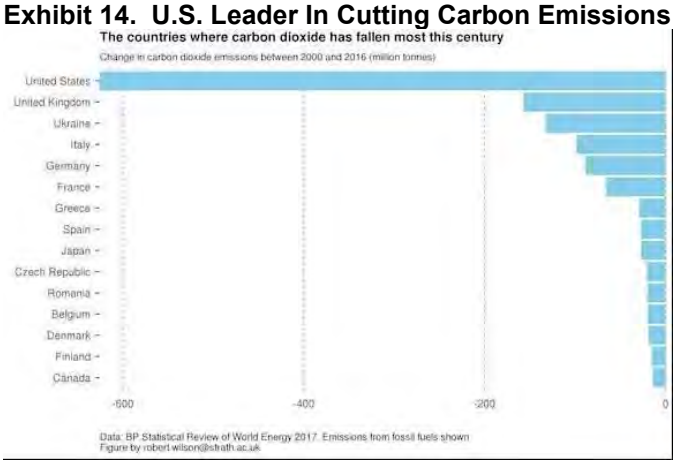
From the time the EU fully-embraced climate change in 1980 until now, it has been steadily reducing its carbon emissions. Prior to 1980, virtually every country was experiencing rising carbon emissions. At that point, U.S. emissions were 10% greater than those of the EU. By 1990, EU emissions had declined by 4%, while U.S. emissions were up 4%. In that same decade, Germany led the EU with a 7% carbon emissions reduction and a dramatic increase in the use of renewable energy. That emissions performance disparity set the stage for the EU, with Germany's leadership influence, to begin pushing the climate research linking carbon emissions from fossil fuels with increased global warming and worsening weather.

**Maybe its emission reduction performance is a reason why the UK is having difficulty reaching terms for leaving the EU**

The rapid embrace of clean energy – wind, and now solar – by the UK has further helped the EU reduce its carbon emissions. In the past year, rather than lowering its $CO_2$ emissions like the UK, Germany's emissions have increased as it has been forced to rely more on coal (the dirty varieties), in response to the disruption of its power grid's operation by integrating as much renewable energy as it has. Maybe its emission reduction performance is a reason why the UK is having difficulty reaching terms for leaving the EU.

Between 2000 and 2016, according to BP's data, the United States has been the best performing country, by a wide margin, in cutting carbon emissions. (See Exhibit 14, next page.)

**Exhibit 14. U.S. Leader In Cutting Carbon Emissions**




**Source:** ***Power Line***

**Their study projects that the U.S. will cut its emissions by 0.4%, or twice the expected reduction projected for the EU**

At COP23, the Global Carbon Project released its latest study of carbon emissions showing that it projects world emissions to rise by 2% in 2017 compared to 2016, led by China's 3.5% increase. Interestingly, their study projects that the U.S. will cut its emissions by 0.4%, or twice the expected reduction projected for the EU. While the study noted that the U.S. decline would be only about one-third of its 1.2% average annual decline experienced during the past decade, that performance would be better than the EU, which will achieve a reduction of less than a tenth its 2.2% average annual decline over the last decade.

**This was the primary reason why U.S. carbon emissions fell by 11% between 2000 and 2016, and may have declined further in 2017**

In the 1980s and 1990s, the United States was struggling with declining domestic oil and natural gas production and rising consumption. At the same time, U.S. carbon emissions were climbing because more of the nation's power was being generated by plants burning coal. This presented an ideal scenario for the EU to promote a climate change agenda that would force the U.S. to invest in more expensive fuels in order to cut its carbon emissions. What messed up this perfect plan was the shale revolution that unleashed huge volumes of lower carbon-emissions natural gas, destroying gas' high price and eventually undercutting the price for dirty coal. This was the primary reason why U.S. carbon emissions fell by 11% between 2000 and 2016, and may have declined further in 2017. During this time span, EU carbon emissions fell by 15%, but the economic cost may have proven much more expensive than in the United States. Germany has experienced soaring electricity prices, forcing the government to reconfigure its electricity pricing because it was so skewed in favor of industry over households. In Denmark, the push for a green auto fleet had to be slowed due to the financial cost of the subsidies for electric car buyers.

**A successful deal would cap his environmental credentials to go along with his war on fossil fuels, and his desire to push the U.S. into a green economy**

The failure of the Copenhagen climate conference in 2009 was a significant setback for the global climate change movement, and put increased urgency on the group to secure an agreement at the Paris meeting in 2015. The movement's most important political leader, President Obama, was about to enter his final year in office, so he was highly motivated to reach a climate deal. A successful deal would cap his environmental credentials to go along with his war on fossil fuels, and his desire to push the U.S. into a green economy, regardless of the economic consequences, and it would justify the 2009 awarding of the Nobel Peace Prize.

**The EU's response has been to isolate the United States for its climate position**

Between 2010 and 2016, coal's share of U.S. energy fell from 23% to 15.8%, while renewables' share climbed from 1.7% to 3.7%. In the EU, coal's share fell from 16% to 14.5%, and renewables more than doubled its share, going from 3.9% to 8.3%. This emissions and economic progress by the EU is in jeopardy following the election of President Trump who is determined to boost U.S. oil, natural gas and coal industries, and push back on green mandates and subsidies. The EU's response has been to isolate the United States for its climate position. Their strategy for overcoming high energy costs and exposure to energy disruptions is to make people choose expensive renewable energy in the guise of it being the only logical choice when confronted with the alternative of a disastrous environmental outcome if we continue burning fossil fuels.

**If fairly presented, people might question whether there are other alternative solutions that are less-costly and do more to mitigate the environmental hazards of electric batteries and renewable energy sources**

As the EU's strategy seems not to be working as well as planned, it has become more radical with governments seeking to ban internal combustion engine cars. This, its leaders believe, will force American auto companies to compete in the marketplace of zero-emission vehicles. Little is mentioned about the fact that the carbon emissions legacy associated with building electric cars requires years of driving them before it is neutralized. Electric car promoters also never mention the environmental and social costs of mining the rare earth minerals required in rechargeable batteries. If fairly presented, people might question whether there are other alternative solutions that are less-costly and do more to mitigate the environmental hazards of electric batteries and renewable energy sources.

**The choice presented is impending environmental disaster with continued use of fossil fuels versus feeling good about saving the planet with high cost renewables and zero-emission electric vehicles**

While the goal to level the economic playing field with respect to energy's cost in manufacturing remains an EU objective, the path to achieving that goal has changed. The choice presented is impending environmental disaster with continued use of fossil fuels versus feeling good about saving the planet with high cost renewables and zero-emission electric vehicles. Expect more of rhetoric as we move forward. Maybe President Trump understands that the climate change movement is really an economic war in the guise of climate change.

# TransCanada Name Change: To Hide Or Change Spots?

Do you remember the 1950s television show Dragnet? We were reminded of the show when we read an article detailing how Canadian pipeline operator TransCanada Corp. (TRP-NYSE) appears to be contemplating a corporate name change involving dropping its home from its name.

**Dragnet, bequeathed several phrases often invoked in contemporary conversation**

The 1950s television show, Dragnet, bequeathed several phrases often invoked in contemporary conversation. For those unfamiliar with Dragnet, which takes its name from a system of coordinated police measures for apprehending criminals, the show follows the exploits of Los Angeles police detective Sargent Joe Friday, Badge 714, played by Jack Webb. It began as a radio show in the 1940s, following a minor role by Mr. Webb as his character in a 1946 movie, and successfully transferred its following to television in 1951.

**"Dum - - - de - DUM – DUM"**

The show opens with a picture of downtown Los Angeles and the ominous, four-note brass and timpani theme music, "Dum - - - de - DUM – DUM," followed by an announcer stating: “Ladies and gentlemen, the story you are about to see is true. Only the names have been changed to protect the innocent.” The camera would immediately pivot to Sgt. Friday and his opening lines: “This is the city, Los Angeles, California. I work here. I'm a cop.” As the story begins, he would state: “We were working the day watch.” The rest of the show, in documentary fashion, described the crime and then followed Sgt. Friday and his partner, as they sought to identify the criminal and then apprehend him. The show finished with the criminal’s mug shot and the voice-over announcing his conviction and sentencing to prison. Usually, during the search, Sgt. Friday would need to question a female witness, at which time he would invoke the phrase, "Just the facts, ma'am."

**TransCanada officials haven’t acknowledged that they are considering changing the company’s name**

According to the article, TransCanada officials haven’t acknowledged that they are considering changing the company’s name. The supposition for the name change comes from an examination of the past four months of the Canadian government’s trademarks journal, as reported by the Canadian Intellectual Property Office. Reportedly, two additional names have received approval notices but have not be published. All the newly trademarked names came about at points in time associated with TransCanada’s purchase of the U.S. pipeline operator Columbia Pipeline Group Inc. in 2016.

The speculation is that TransCanada would like to leave behind the negative sentiment from its involvement with the Keystone XL pipeline battle of a few years ago. Alternatively, the company’s growing non-Canadian businesses may be driving a desire to have a less territorial moniker attached to the company. The names TransCanada is protecting include: TC Energy, TCE, Ventiv, Convergent, Northbow, Valentis Energy, and Vectura Energy.

**Changing a company's name is usually associated with a desire to standardize a valuable brand, such as in the Exxon Corp. change, or an attempt to recast a company's image**

Changing a company's name is usually associated with a desire to standardize a valuable brand, such as in the Exxon Corp. change, or an attempt to recast a company's image. In other cases, the name change may reflect the evolving nature of a company's business and a desire to appear more "up-to-date." An example would be NextEra Energy, Inc. (NEP-NYSE). The company, organized in 1925, was originally named Florida Power & Light Company and was engaged in operating power plants, water facilities, gas plants, ice companies, laundry services and even an ice cream company, while also distributing electricity to thousands of Floridians. As Florida grew, so did the company. Eventually it shed many of its minor businesses to concentrate on utility operations. But as the company began investing in renewable energy projects, it decided to change its name in 1997 to FPL Energy. As the corporate strategy shifted to becoming a leader in developing wind and solar power facilities, eventually becoming the nation's largest producer of these renewable power sources, it adopted a new name, NextEra Energy, to demonstrate the shift in its energy focus.

**At the same time, the company changed its corporate name from Standard Oil of New Jersey to Exxon Corporation**

Then there is Exxon, who experienced marketing battles with some of its siblings from the breakup of the Standard Oil Trust. That split had left Standard Oil of New Jersey to use three different marketing names – Esso, Enco and Humble Oil – depending on the region of the country. In 1972, Exxon was unveiled as the new, unified brand name for all former Enco and Esso outlets. At the same time, the company changed its corporate name from Standard Oil of New Jersey to Exxon Corporation. Much later it moved its corporate headquarters from New York City to Los Colinas near Dallas, Texas.

**Originally, the company wanted to keep the new name to four letters – Exon – in keeping with its past marketing names**

The rebranding came after successful test-marketing of the Exxon name during the fall and winter of 1971–1972. Originally, the company wanted to keep the new name to four letters – Exon – in keeping with its past marketing names, but the governor of Nebraska had the same last name, so an extra "X" was added to avoid any confusion. At that time, Exxon adopted a rectangular logo using red lettering and blue trim on a white background, which was similar to the familiar color schemes of the old Enco and Esso logos.

**These divestments seem to be going against the trend for energy utilities, but maybe TransCanada is setting the stage for a more substantive acquisition move**

If TransCanada changes its corporate name, the key question will be why? The political battles in Canada over constructing, or even modifying existing pipelines, seems to be a limiting factor for the company's growth. By dropping Canada from its name, the company will shed that "low-growth" image. The basic question will be whether TransCanada plans further international expansion efforts, or other energy portfolio moves? It recently sold its only solar power holdings, eight facilities with 76 megawatts of capacity, in Ontario. Earlier this year, it sold its hydropower and wind generation assets in the U.S. to help fund the $13 billion takeover of Columbia Pipeline Group. These divestments seem to be going against the trend for energy utilities, but maybe TransCanada is setting the stage for a more substantive acquisition move.

**That verdict was reversed when Arthur Andersen, its parent, became identified with "corrupt accounting" as a result of the Enron fraud**

Corporate name changes are often done to protect the innocent, or the guilty in some cases. Some good name changes include: Quantum Computer Services to AOL; Backrub to Google; Sound of Music to Best Buy; and Research in Motion to Blackberry. On the other hand, when Andersen Consulting, a spin-off from Arthur Andersen, adopted Accenture as its new name, it was widely derided as a bad move. That verdict was reversed when Arthur Andersen, its parent, became identified with "corrupt accounting" as a result of the Enron fraud. We'll wait for the facts, when and if TransCanada changes its name.

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