

# **MUSINGS FROM THE OIL PATCH**

November 1, 2016

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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 Elephant In The Oil Market May Not Be OPEC Agreement

Every day, traders and speculators take the measure of the comments surrounding this agreement

Some of the presidents faced a recession early in their term, while others started as the recession was nearing an end.

Will they or won't they? The question that is befuddling the oil market right now is the answer to the question of whether the rumored agreement among the leading members of OPEC to cap their production between 32.5 and 33 million barrels a day will come to pass at the organization's next official meeting on November 30. Every day, traders and speculators take the measure of the comments surrounding this agreement. While the agreement is considered to be the elephant in the oil market and what will control its future, there may be another animal hiding in the corner that could be much more influential on the market and oil prices in the near term. We have yet to hear anyone reference that animal in the shadows, yet there is a history of him rearing his head and creating headwinds in the oil market. That animal is recession.

Historically, nearly every time there has been a change in the administration leading the U.S. government there has been a recession. Now, it isn't a perfect correlation and there is no absolute cause and effect relationship, but the record is daunting. Exhibit 1 (next page) shows a list of the official recessions experienced by the United States since World War II per the National Bureau of Economic Research's Business Cycle Dating Committee, the economic body assigned with responsibility of determining the dates of recessions. We have also listed the president whose first year in office coincides with a recession year. As can be seen, some of the presidents faced a recession early in their term, while others started as the recession was nearing an end. The challenge for any president facing a recession when he enters office is understanding that the starting and ending dates of recessions are often not determined until sometime after the event.

		First Year
Recession Dates	<b>Recession President</b>	in Office
November 1948 - October 1949		
July 1953 - May 1954	Eisenhower	1953
August 1957 - April 1958		
April 1960 - February 1961	Kennedy	1961
December 1969 - November 1970	Nixon	1969
November 1973 - March 1975	Ford	1974
January 1980 - July 1980		
July 1981 - November 1982	Reagan	1981
July 1990 - March 1991	G.H.W. Bush	1989
March 2001 - November 2001	G. W. Bush	2001
December 2007 - June 2009	Obama	2009
Source: NBER, PPHB		

#### Exhibit 1. Recessions And Presidential Leadership

In the 71

In the 71 years since the end of World War II, eight U.S. presidents experienced a recession during their first year in office. Four presidents - Harry Truman, Lyndon Johnson, Jimmy Carter and Bill Clinton - avoided that fate, although the recession that spanned January 1980 to July 1980 was partially responsible for Jimmy Carter's re-election loss to Ronald Reagan. There is no magic to the recession relationship, as each one was caused by a specific set of circumstances. In fact, a recent *New York Times* column about the likelihood of a recession during the next president's term focused on the longevity issue of economic recoveries since the financial crisis and recession of 2008-2009. The author's argument is that history has shown numerous economic recoveries have lasted longer than the current one, so the idea that we are due for a recession merely because of the age of this recovery is not necessarily valid.

#### Exhibit 2. Duration Of Economic Good Times

Economies Can Expand for a Long Time



Source: Longview Economics: National Bureau of Economic F Source: The New York Times

The purpose in our examination of this issue is not to determine whether a recession will or will not occur, but rather to examine what might happen to oil demand should one develop. To put this issue into historical context, we have prepared a chart showing the annual growth, or decline, in global oil consumption between 1966 and 2015



#### History has shown numerous economic recoveries have lasted longer than the current one

There were four times when

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when oil consumption declined absolutely, but it is also interesting to note how significantly the percentage change in annual global oil consumption growth has slowed since the 1960s and 1970s to current times.

As shown in Exhibit 3, there were four times when global oil consumption's growth was negative - three of which were related to specific shocks to the global economic system. Those events were the Arab oil embargo in 1973 and the quadrupling of world oil prices, the Iranian revolution and resulting Iran-Iraq War that followed a tripling of world oil prices, and the 2008-2009 global financial crisis and recession. The fourth oil consumption downturn was in 1993 when the economic recession of 1990-1991 dragged on, especially in Europe where Germany. France and Italy all experienced sharp economic downturns that cut their energy usage.



Exhibit 3. World Oil Consumption Growth Has Slowed

Source: BP, PPHB

The United States has experienced more frequent economic recessions than the four world events that cut global oil consumption. In Exhibit 4 (next page), we have calculated the annual change in oil consumption measured in barrels per day (b/d). We calculated that the average annual increase in oil consumption over the entire 1949-2015 period was 207,000 b/d. If we calculate the rate for just those years with positive growth, the average annual increase is more than 50% higher, or 328,000 b/d. As we had in the global oil consumption chart, we plotted a curve to show how the consumption growth rate has slowed since the 1950s to now. We calculated that between 1950 and 1973, the average annual oil consumption growth was 481,000 b/d, which compared with only a 50,000 b/d annual increase during 1974-2015. One reason for the sharply lower average annual consumption growth rate in the later years was the large number of years of negative growth. In contrast, the pre-1974 period never experienced a negative year in oil consumption.

Between 1950 and 1973, the average annual oil consumption growth was 481,000 b/d, which compared with only a 50,000 b/d annual increase during 1974-2015



We have noted the primary recession years on the chart. While we can't measure the consumption changes closely on this chart, it is instructive that consumption fell, or was negative, in virtually every recession year with the exception of 1957.



Exhibit 4. Low Or Negative Oil Use Reflect Recessions

Source: BP, EIA, Avery Lovins, PPHB

Since the data in Exhibit 4 is annual, we decided to see what the actual pattern of consumption changes were during actual recession months. The Energy Information Administration (EIA) prepares data on monthly crude oil and product supplied to the market, which we assume is fairly representative of actual consumption. Therefore, we can plot the monthly product supplied data for the specific months of the recession periods. The problem is that for some of the recessions, their duration is less than a year, which opens up the analysis to seasonal considerations. Therefore, for the four recessions since 1981 (Exhibits 5-8, next pages), when the monthly supply data series begins, we plotted not only the months of the recession but also the supply during the same months for the following two years in an attempt to gauge whether the recession demand decline was more economically-driven rather than due to seasonal changes. While not perfect, the four charts show that the monthly consumption for the recession periods (light blue bars), is lower than most of the months during following two yearly comparisons. This is a quick way to overcome monthly duration differences and seasonal weather impacts.

The four charts show that the monthly consumption for the recession periods, is lower than most of the months during following two yearly comparisons



#### PAGE 5



#### Exhibit 5. Showing How Recession Cut Oil Demand



#### Exhibit 6. Oil Consumption Declined In Early 2000s



Source: BP, PPHB

#### Exhibit 7. Consumption Lower In 2001 Recession



Source: BP, PPHB



#### PAGE 6



#### Exhibit 8. How Financial Crisis Cut Oil Consumption



The purpose of this analysis is only to assess the possibility that oil consumption is likely to fall if there is a recession starting sometime in 2017, something that modern history suggests cannot be ruled out. On the other hand, we are reminded of recent comments by legendary investment manager Jeremy Grantham about the longstanding presidential investment pattern. Mr. Grantham told the Financial Times that the Federal Reserve has killed off the "presidential cycle" of stock gains. "The presidential cycle owed everything to the Fed. The Federal Reserve, completely innocently, always decided to come to the aid of the party in power." The government, including the Federal Reserve, enacted programs to stimulate the economy in the third year of a presidential term so that voters would feel the benefits as they went to the polls in the fourth year. As a result, from 1932 to the start of the Obama presidency, the first, second and fourth years of presidential terms saw stocks gain an average of 0.2% a month, while during the third year, monthly returns varied from 0.75% to 2.5%.

According to Mr. Grantham, now that the Federal Reserve has become "the dominant force in economics and finance and assumed enormous power, they are constantly looking for excuses to push down on interest rates and drive asset prices higher to get some wealth effect." As a result of this new era for the Federal Reserve, Mr. Grantham says, "I don't trust them any more to play the easy

presidential cycle."

The presidential investment cycle is allied with the economic cycle that tends to lead to economic downturns early in the term of a new president. In other words, the government and the Federal Reserve are working to boost the economy heading into the fourth presidential year and the election only to have negative repercussions in the future from an overheated economy. Maybe

#### Mr. Grantham told the *Financial Times* that the Federal Reserve has killed off the "presidential cycle" of stock gains

#### "I don't trust them any more to play the easy presidential cycle"



this time will be different because of the structural issues that appear to have condemned the U.S. economy to a perpetually slow growth.

It will be important to see who among the 12 OPEC members will be exempted from a monthly production quota, and what those countries near-term output goals are It appears to us that everyone in the energy industry is fixated on whether the OPEC oil ministers meeting in Vienna, Austria on November 30<sup>th</sup> will produce an agreement to limit the group's output, and how that production volume will be shared among the group's 12 members. Also, it will be important to see who among the 12 OPEC members will be exempted from a monthly production guota and what those countries near-term output goals are. Lastly, we need to see some support from Russia for OPEC's production cap to have much strength. While all these details are important to the outcome of the OPEC meeting and how the energy world reacts to whatever is agreed to, the lack of executive thinking about what happens to energy demand if the U.S. enters a recession could be the pothole everyone steps in. The duration and depth on any recession will determine how much oil demand might be lost due to weaker economic activity. We suggest you should pay attention to this hidden elephant in the OPEC meeting room.

### The Anti-Fossil Fuel Movement Risks Environmental Disaster

Activists posted videos of the protesters cutting padlocks and chains in order to enter flow stations Inspired by the Dakota Access Pipeline protest by the Standing Rock Sioux tribe, members of the environmental activist group Climate Direct Action recently broke into remote pipeline flow stations in an attempt to turn off valves to stop the flow of crude oil. Activists posted videos of the protesters cutting padlocks and chains in order to enter flow stations in four different states to disrupt the flow of upwards of 15% of the oil consumed daily in the United States. This protest was mirrored after an attack on a Canadian oil pipeline in December 2015.



#### Exhibit 9. Closing Oil Pipeline Valves

Source: Climate Direct Action



A big issue is the safety of the protest issue, irrespective of whether the motives are sound. After gaining access to the valves and shutting them, the protesters would chain themselves to the closed valves to attract more attention for the protest due to the greater efforts necessary for the police to arrest and remove them.

According to pipeline operators and safety experts, shutting off the valves was extremely dangerous because the activists don't know which lines are heavily pressurized and might rupture. Although oil pipelines operate with only about 1,000 pounds per square inch of pressure, that pressure can build if the valves are shut incorrectly, and especially if a weak spot in the pipeline springs a leak or explodes. The activists were counting on the fact that there were no structural risks involved and that pipeline operations people would immediately react to the warning alarms.

An article about these protest acts was published by the U.S. Chamber of Commerce and provided an eyewitness's account to the Canadian pipeline shut-down last December:

"6:45 a.m. Jean Leger calls the Enbridge (ENB-Nasdaq) emergency number and tells them that he is closing the valve. This is filmed by a co-conspirator journalist. The whole valve and the ground starts vibrating. To avoid a potential explosion, the valve is opened slightly. The ground continues to vibrate, and sound of pressurized flow is audible.

"…

"Approx. 9:00 – Activists unlock and the valve is firmly closed. The vibration reaches a fever pitch, but once the valve is wrenched as far as humanly possible to the right, the vibration stops altogether. Activists lock back onto the valve."

Law enforcement's efforts to arrest the activists may actually have resulted in them being saved from a life-threatening situation According to the report, at the point the police were attempting to handcuff one of the activists who was chained to a valve, another valve that was not a part of the targeted infrastructure began to spray oil all over. We don't know how much oil was sprayed, but it is quite possible that law enforcement's efforts to arrest the activists may actually have resulted in them being saved from a lifethreatening situation. One has to wonder why environmentalists risk personal harm and environmental damage to make their point.

### First Keystone; Now DAPL; Next NE Natural Gas Pipelines?

For several years, a key fund raising and energy-mobilizing issue for global warming/climate change activists was their efforts to get President Barack Obama to deny the construction permit for TransCanada Corp.'s (TRP-NYSE) Keystone XL pipeline planned to haul Canadian oil sands bitumen and Bakken oil from western Canada and Montana to the U.S. Gulf Coast refining complex. The



Pressure can build if the valves are shut incorrectly, and especially if a weak spot in the pipeline springs a leak or explodes Blocking Keystone became a rallying cry for environmentalists, especially those adamantly opposed to the extensive use of the "dirty tar sands" from Canada, as well as those concerned about the long-term environmental damage from burning any fossil fuels struggle involved legal battles, multiple pipeline permit applications and environmental assessments, and political intrigue at both state and federal levels. Blocking Keystone became a rallying cry for environmentalists, especially those adamantly opposed to the extensive use of the "dirty tar sands" from Canada, as well as those concerned about the long-term environmental damage from burning any fossil fuels. The issue became so powerful that whenever the environmental movement was in need of money to support its agenda, it merely staged a protest demonstration led by prominent Hollywood celebrities, political leaders and environmental activists. The media's coverage of the demonstration was sure to spur the public to fill the coffers of the environmental organizations.

#### Exhibit 10. DAPL To Become The Next Keystone XL?



Source: Associated Press

Once Keystone was defeated after President Obama's veto of the construction permit, the question became what would be the next rallying point for the environmental movement. It took a few years, but now we know. The movement has determined that protesting the construction of the Dakota Access Pipeline (DAPL) will be that catalyst.

As we write this, DAPL protest activity may be reaching a peak. The mobilization of Native Americans to protest the construction of the pipeline was driven by two factors. The pipeline route goes through land the Native Americans consider to be their traditional land. Secondly, the pipeline will cross under the Missouri River near the Standing Rock Sioux Reservation and possibly threaten the tribe's water supply.

The \$3.8 billion, 1,721 mile DAPL oil pipeline is designed to move 570,000 barrels per day (b/d), or nearly half the current daily production from the Bakken region in North Dakota to a pipeline interconnection in Illinois. Currently, most of that production is moved by railcar, a much riskier transportation method. The line is already 60% built and the owners are targeting its start-up by the

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## Exhibit 11. DAPL To Move Half Of Bakken Output STANDING ROCK PROTESTS

Source: Energy Transfer

end of 2016. The need for the pipeline is a reflection of the recent and expected future growth of crude oil output from the Bakken region. The pipeline's owners, Energy Transfer Partners (ETP-NYSE) and Enbridge Energy Partners (EEP-NYSE), secured the necessary state environmental and antiquities approvals as well as those from the U.S. Corps of Engineers, required in order to cross streams and rivers. In complying with the application procedures, the pipeline's owners consulted with those Native American groups most closely impacted by the pipeline's routing and construction. In some cases, however, the Native American groups ignored the requests for meetings and testimony.

From a two-person protest camp in February, the camps containing pipeline protesters have swelled to hold as many as 8,000 people this summer. The protesters were supported by the involvement of environmental groups including the Sierra Club and 350.org. But it wasn't until a September protest turned violent and the construction company's security detail employed dogs that the violence escalated and videos of the demonstration went viral online. People motivated to come to North Dakota to support the protest movement claimed that they were angered by the pictures reminding them of the civil rights protests in the 1950s and 1960s when police dogs were used in various southern states to attack demonstrators. After the September demonstrations during which construction equipment

The pipeline's owners consulted with those Native American groups most closely impacted by the pipeline's routing and construction

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#### The attention motivated Native American groups from around the country to swarm to the Standing Rock Reservation

#### After a brief stay, a federal judge ruled against the Sioux tribe and allowed the construction to move forward

During that police action, pepper spray and bean bags were used against the protestors and 16 more were arrested was damaged and protestors who had chained themselves to the equipment, including Green Party presidential candidate Jill Stein, were arrested, the media's attention to the protest grew. The attention motivated Native American groups from around the country to swarm to the Standing Rock Reservation in support of the Standing Rock Sioux Tribe.

The protesters filed legal actions to stop the pipeline's construction claiming that the permits issued, especially those from the Corps of Engineers, were invalid because the proper consultation and studies had not been conducted. After a brief stay, a federal judge ruled against the Sioux tribe and allowed the construction to move forward. At this point, the Obama administration stepped in and ordered the Corps of Engineers to suspend its permits and review the procedures under which they were issued. The government also requested the pipeline owners to suspend construction work on both federal and private land. After a brief suspension of work, construction activity has resumed on private land, which has led to the most recent DAPL demonstrations.

The weekend before last, roughly 250 protesters, encamped on private land with another 80 in a camp nearby, set up a blockade on Highway 1806 using cars, horseback riders, and wooden barricades in an attempt to prevent construction work from progressing. This blockade protest became violent and some 86 protestors were arrested. Last Thursday, the police moved in to finally remove the blockade and extinguish the burning tires protesters had ignited to help their cause. During that police action, pepper spray and bean bags were used against the protestors and 16 more were arrested. Since mid-August, an estimated 285 protesters have been arrested.



#### Exhibit 12. Last Week's DAPL Protest Turns Ugly

Source: ABC News and Sam Shawcross/Twitter



#### An emerging leader in the escalating DAPL protests is Jane Kleeb, the founder of Bold Nebraska, the activist group that led the fight against construction of the Keystone pipeline

Ms. Kunkel's April 2016 research questions the financial necessity of the proposed Mountain Valley and Atlantic Coast pipeline projects to move natural gas from the Appalachian shale region

These two prolific gas regions currently account for 23.4% of total U.S. natural gas production and 48% of total U.S. shale natural gas output, and have the potential to increase that market share meaningfully An emerging leader in the escalating DAPL protests is Jane Kleeb, the founder of Bold Nebraska, the activist group that led the fight against construction of the Keystone pipeline. This summer, Mrs. Kleeb was also elected the chairwomen of the Nebraska Democratic Party with the help of Senator Bernie Sanders' supporters. Sen. Sanders had previously won the Nebraska Democratic Party caucus over Secretary Hillary Clinton, and Mrs. Kleeb was an active supporter of his. She even contemplated running for one of the two seats on the Nebraska Public Utilities Commission up for election in November.

In June, the Rockefeller Family Fund organized a meeting in Atlanta involving various environmental activist groups including Bold Nebraska to formulate a strategy to fight the use of eminent domain for construction of pipelines and other fossil-fuel infrastructure projects. Bold Nebraska had already helped to establish affiliates in Iowa, Louisiana and Oklahoma to fight construction of these type projects. The groups meeting with the Rockefeller Family Fund are promoting the research conducted by Cathy Kunkel of the Institute for Energy Economics and Financial Analysis, a think tank fighting fossil fuel projects. Ms. Kunkel's April 2016 research questions the financial necessity of the proposed Mountain Valley and Atlantic Coast pipeline projects to move natural gas from the Appalachian shale region. So far, there have been 19 major natural gas pipelines, including the Atlantic Coast project, proposed for that region and to tap the vast natural gas resources in the area. Another of those pipeline projects, the Constitution pipeline, was denied a key construction permit under the Clean Water Act in New York State by Governor Andrew Cuomo. Kinder Morgan (KMI-NYSE) has already cancelled the Northeast Energy Direct pipeline due to a lack of gas purchase agreements.

Mrs. Kleeb stated during an interview that once DAPL was stopped, she and her group have already targeted a number of pipeline projects in the Marcellus and Utica regions for their next attack. These two prolific gas regions currently account for 23.4% of total U.S. natural gas production and 48% of total U.S. shale natural gas output, and have the potential to increase that market share meaningfully over the next few years if gas pipeline take-away issues can be resolved. If the pipelines cannot be built, it might become necessary to build natural gas-fired power plants in the region and export the electricity via high-tension transmission power lines. That latter option will defuse anti-fossil fuel activists.

There are several key pipeline projects planned to boost natural gas take-way capacity from the Marcellus and Utica regions. They are pictured in Exhibit 14 (page 14) along with several other planned pipeline projects in the country. Most of the pipelines pictured will transport natural gas. There are two pipelines (dotted lines) designed to move crude oil such as the DAPL line. The ability to attack the oil and gas industry by preventing or delaying the



#### PAGE 13



# Exhibit 13. Marcellus And Utica Are Half Of Shale Output U.S. dry shale gas production

Sources: EIA derived from state administrative data collected by Drillinginfo Inc. Data are through August 2016 and represent EIA's official shale gas estimates, but are not survey data. State abbreviations indicate primary state(s). Source: EIA

construction of transportation facilities has now become an important weapon for environmentalists.

The two high-profile natural gas pipeline projects being targeted -Atlantic Coast and Mountain Valley – will be harder to derail, according to Mrs. Kleeb. She acknowledges the greater difficulty. "I do think there's a heavier lift to educate the public about the risk of fracked gas pipelines," she said. "Oil pipelines, we've seen [BP's (BP-NYSE) Deepwater Horizon spill], visual destruction, that's an obstacle." Federal gas pipeline regulators also say that the same politics that launched the Keystone XL pipeline and now DAPL into the national spotlight cannot be replicated in the natural gas market. The primary reasons why are the Natural Gas Act and an independent regulatory model at the Federal Energy Regulatory Commission (FERC) for interstate gas pipelines, which employs a more judicial approach and relies on a record and due process to reach decisions, and not politics. There is extensive case law associated with gas pipeline regulatory overview that acts to insulate the developers.

The companies developing the 600-mile-long Atlantic Coast and the 300-mile-long Mountain Valley pipelines also point out that the protestors ignore the extensive outreach the companies have made to the landowners, as well as the environmental benefits and widespread support these pipelines enjoy.

While that may be all well and good, an analysis prepared by BTU Analytics has tracked the number of comments submitted on various pipeline projects to the federal regulators as a gauge of growing local opposition, and has shown how they have grown. They have also found that plotting the route of pipelines and the wealth of the people living in the counties the pipelines transverse is another method to gauge potential opposition. Their thesis is that wealthier

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Plotting the route of pipelines and the wealth of the people living in the counties the pipelines transverse is another method to gauge potential opposition



Exhibit 14. Pipelines To Be Fought By Environmentalists

Source: Energy News

people are more likely to have the resources to fight projects as well as the desire to sustain their lifestyles without suffering new energy infrastructure construction turmoil. In our view, this position has sound grounding as the lack of natural gas pipeline capacity in the Northeast region of the country means that during the winter, electric utilities that cannot enter into long-term gas supply contracts (those require minimum volume takes the utilities are not prepared to commit to) are forced to buy gas on the spot market at peak demand times. Paying top prices for marginal gas supply boosts electric power costs, or forces the utilities to start up less efficient and dirtier power plants that burn coal and/or fuel oil. The wealthier people can afford the higher electricity costs, support more subsidies for lowincome residents who can't afford the high utility bills, and protest new construction projects.

The battle over Keystone XL was the first in what is becoming a fullscale war against new energy infrastructure. The tactic has enabled the environmental movement, and especially that segment most opposed to ever using fossil fuels, to leverage its power. To hear some in the environmental movement proclaim that the United States has enough pipelines now, so why build any more, makes one wonder how knowledgeable the protestors are. (Yes, we know that answer.) According to the Department of Transportation, as of 2014, the nation had 160,000 miles of oil pipelines and nearly 1.6

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#### Exhibit 15. Wealthy Communities May Protest Pipelines More

Source: BTU Analytics, US Census Bureau/Small Area Income and Poverty E Source: BTU Analytics

million natural gas pipelines, of which nearly 1.3 million miles represent distribution lines, or those that bring the gas to individual homes and businesses. We doubt there is much of this pipeline capacity that is not being used. If there were miles of unused pipeline, we believe the owners would be trying to find projects that would utilize them. If the environmental movement is able to stop the construction of new pipelines, the utility and energy transportation companies will be forced to start figuring out how to maximize unused pipeline capacity although transportation costs will be higher due to the greater distances the gas and oil will travel.

The real lesson of this war against fossil fuel infrastructure projects is that new projects will likely take longer to be approved and to build While it is possible that a cessation of new pipeline construction might alter the supply and demand dynamics for the domestic fossil fuel industry, we doubt it would be a true game-changer given the extensive existing infrastructure in place. The biggest winner in such a war will be the owners of the existing pipelines as their value increases. The real lesson of this war against fossil fuel infrastructure projects is that new projects will likely take longer to be approved and to build. Additionally, given the DAPL experience, no management can now assume that once it has secured all necessary permits to construct a project that it will not face further challenges to these permits and even risk their cancellation down the road. That is an economic risk that will need to be factored into project assessments. The rule of law in the case of environmental matters is rapidly becoming more dependent on the social attitudes of regulators, politicians and judges, than legal precedents. That is not a good place to be.



#### Nearly 1.3 million miles represent distribution lines, or those that bring the gas to individual homes and businesses

NOVEMBER 1, 2016

## **Despite Climate and Matthew Hype, Public Not Worried**

The long dry spell for the continental United States avoiding a

This number of storms makes this season the most active since 2012, with about five weeks remaining	hurricane landfall ended when Hurricane Hermine reached the Florida Gulf Coast on September 2 <sup>nd</sup> , the first storm to do so since Hurricane Wilma landed in Florida on October 24, 2005. So far this hurricane season, we have experienced 14 named tropical storms with six developing into hurricanes and three of them reaching major hurricane status. This number of storms makes this season the most active since 2012, with about five weeks remaining. At mid- October, the risk of storms leaving the African coast and landing on the U.S. coastline is quickly diminishing. The greater risk now is for the development of tropical cyclone activity in the southern Gulf of Mexico, Caribbean and near the Bahamas, or closer to the U.S. coast with faster arrival times.
Hurricane Matthew made landfall on the South Carolina coast on October 8th as a Category 1 storm with winds of 75 miles per hour	Hurricane Matthew, the second hurricane to make U.S. landfall was the most dangerous reaching Category 5 status for a few hours before dropping back to a Category 4 storm and then weakening further as it approached the U.S. East Coast. Hurricane Matthew made landfall on the South Carolina coast on October 8 <sup>th</sup> as a Category 1 storm with winds of 75 miles per hour. The large storm generated substantial rainfall as it moved along the U.S. coast line, which created havoc in inland areas of the Carolinas due to flooding.
	Some climate change promotors were disheartened at the weakening of Hurricane Matthew as it approached the U.S. coast after having slammed Haiti as a Category 4 storm with 150 mile-anhour winds and killing 1,000 people. The re-strengthening of Hurricane Matthew after it passed Haiti and Cuba sent coastal residents of Florida to North Carolina scurrying to evacuate to safer locations inland.
The problem is that there is no scientific evidence of any such linkage	Various politicians and scientists proclaimed that the dangerous Hurricane Matthew was the result of climate change's impact on tropical storms – increasing their frequency and intensity. The problem is that there is no scientific evidence of any such linkage. The inability of the environmental movement to leverage a super hurricane such as Matthew, as they had done with Sandy in 2012, and convince people that they were the victims of climate change- influenced weather was a great disappointment.
In Westerly, the storm surge took the beach sand and deposited it roughly a 100 feet inland and on top of the coastal road	As an aside, Sandy did extensive damage to the beaches along the Rhode Island shore line. In Westerly, the storm surge took the beach sand and deposited it roughly a 100 feet inland and on top of the coastal road. The government mobilized a massive effort in early 2013 to dig up the sand, sift it twice to remove all storm associated debris and place it back on the shore to re-create the beach. This year, beach officials acknowledged that two-thirds of the sand that had been replaced was now gone. It seems the government officials who oversaw the replacement of the sand drew



#### The survey listed Global Warming and Climate Change as the 15th greatest fear

a straight line along the shore and deposited the sand within that configuration. Unfortunately, the natural shoreline at that location is curved. So guess what the ocean currents did? They pulled all the misplaced sand offshore, eroding the beach.

In light of all the focus on climate change and the attempted linkage to storm activity, we were intrigued when we saw a recent 2016 poll of Americans' top fears. The survey - The Chapman University Survey of American Fears, Wave 3 – was conducted in April of this year and listed Global Warming and Climate Change as the 15th greatest fear. The category was up 1.6 percentage points from its rating in a similar survey conducted in 2015.

#### Exhibit 16. Climate Change Not A Top Fear Now

#### Americans' Top Fears In 2016

% of Americans who reported being "afraid" or "very afraid" of the following... 60.6 Corruption of Government Officials Terrorist Attack on Nation 41.0 Inadequate Funds for the Future 39.9

38.5





These survey results are similar to those of the Gallup organization that regularly surveys Americans about their most important concerns. One of the topics Gallup has regularly surveyed is Americans' concerns over Global Warming/Climate Change. Gallup has been surveying Americans on this subject since 1990. In its latest survey, conducted in early March 2016, Gallup reported that 64% of Americans were worried a "great deal" or "fair amount" about global warming, up from 55% at the same time a year earlier. Gallup pointed out that this was the highest ranking since the 66% reading in 2008. This year's survey was conducted almost immediately following the end of one of the warmest winters on record. The winter of 2015-2016 was impacted by a Super El Niño weather event that drove winter temperatures to record highs for much of the northern and northeastern regions of the country. The warm temperatures were similar to those experienced during the winter of 1997-1998, the last great El Niño event.

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The 1982-1983 event was ranked as a major world event because the damages caused by the extremely warm temperatures and increased wet weather were estimated to be in the billions of dollars while deaths worldwide due to extreme weather events were in the 1,000s In researching the El Niño events through history, we were struck by the fact that in recent years there have been six strong El Niño events: 1957-1958; 1965-1966; 1972-1973; 1982-1983; 1991-1992; and 1997-1998. Interestingly, the El Niño of 1982-1983 was considered to be the strongest. According to one media story reviewing the strongest El Niño events in history, the 1982-1983 event was ranked as a major world event because the damages caused by the extremely warm temperatures and increased wet weather were estimated to be in the billions of dollars while deaths worldwide due to extreme weather events were in the 1,000s. The three month average temperature and precipitation variances from the historical averages for the fall and winter seasons of that year are shown in Exhibit 17.

> Temperature Extremes During El Niño

#### Exhibit 17. 1982-83 El Niño Was Among The Worst

El Niño Extreme Event Risk

Precipitation Extremes During El Niño

When comparing the 1997-1998 El Niño to prior ones, the data in Exhibit 18 (next page) shows that it was not as warm as a number of earlier years, depending on the region of the country. While not denigrating the significance of this most recent El Niño, there have been numerous past periods when temperatures and/or precipitation have been greater. As outlined above, the pattern of the El Niño events shows some sense of regularity until the most recent one.



There have been numerous past periods when temperatures

and/or precipitation have been greater

Source: AccuWeather

#### The 2015-2016 period marked an 18-year span since the last super El Niño, something of an unusual pattern

The prior events starting in 1957, are repeated every six to ten years. The 2015-2016 period marked an 18-year span since the last super El Niño, something of an unusual pattern. However, if there were no El Niño events between the 1932-1934 period and 1957-1958, then that would have marked a span of 23-25 years. We suspect that there were El Niño events during the interim, but they were probably not as significant as the 1957-58 one. Based on the data, it is impressive to imagine what the 1932 El Niño weather event must have been like and how it contributed to the dust bowl that marked the Great Depression.

#### Exhibit 18. How 1998 Heat Compared With Past

Tł	-IE	S	ΓΑ	ΓS		
	PRECI	PITATION (IN	CHES)			
	DRIEST	WETTEST	NORMAL 1998			
REGION	VALUE YEA	R VALUE YEAR	PCPN PCPN			
NORTHEAST	4.56 198	0 13.97 1979	8.94 9.27			
EAST NORTH CEN	TRAL 1.61 193	1 5.55 1969	3.50 3.27	Duiou		
CENTRAL	4.24 196	3 17.30 1950	8.60 7.95	Drier		
				1		
SOUTHEAST	5.77 193	8 17.81 1998	12.15 17.81			
WEST NORTH CER	VIRAL .84 193	0 12 12 1022	1.81 2.07	And the second second		
SOUTH	3.57 191	8 13.12 1932	0.00 9.07	Wattor		
SOUTHWEST	.93 190	4 6.53 1993	2.58 2.78	Weller		
NORTHWEST	3.86 197	7 15.73 1965	10.69 9.65			
WEST	2.52 197	7 15.87 1969	7.18 14.02	Flooding		
				intoouning		
NATIONAL	4.08 197	7 8.50 1932	6.35 7.96			
Ov	erall V	Vetter	& War	rmer		
<b>.</b>	eran i	a merimi	60 00 (8)			
TEMPERATURE (DEGREES F)						
	COLDEST	WARMEST	NORMAL 1998			
REGION	VALUE YEA	R VALUE YEAR	TEMP TEMP			
NODWITTLOW	16 6 101	0 20 7 1022	22.2 Jan-1			
FACT NORTH CEN	TO.0 191	6 26 6 1992	16 4 76 6			
CENTRAL.	23.9 197	8 40.8 1932	31.1 37.4			
CONTINUES	2017 257		5111			
SOUTHEAST	41.2 197	8 55.5 1932	46.2 48.4	Winter		
WEST NORTH CEN	NTRAL 9.5 197	9 27.6 1992	19.4 25.8	Heat		
SOUTH	38.0 190	5 48.6 1952	43.1 44.7	Wave		
CONTRACT	27 2 103	3 30 4 1001	22 2 24 2			
NORTHWEST	21.7 194	9 37.2 1934	30.5 11.4	Manager		
WEST	31.7 194	9 43.9 1981	39.9 40.9	warmer		
NATIONAL	27.1 197	9 36.6 1992	32.3 36.4*			

Source: AccuWeather

The significance of the El Niño weather is demonstrated in the Gallup survey results following the 1997-1998 winter. In 1998, 50% of Americans were concerned about global warming. That concern increased the following year to 59%, and then climbed to 68% before topping out at 72% in 2000. The next peak in concern came in 2008 at 66% and the 2016 peak is now 64%. So, while Gallup titled its press release announcing the 2016 survey results as "U.S. Concern About Global Warming at Eight-Year High." The fact is that this year's poll results did not match or exceed the 2008 survey peak, and certainly not the 2000 results.



The fact is that this year's poll results did not match or exceed the 2008 survey peak, and certainly not the 2000 results



#### Exhibit 19. Americans More Concerned About Climate



A more telling survey by Gallup is its monthly survey tracking the most important problems facing the U.S. In the September 7-11, 2016, poll addressing those issues, the Environment/Pollution topic received a 1% rating, which was down from 2% in similar polls for June through August. The conclusion to be drawn from these various survey results is that when Americans are left to name their most pressing concerns, the issues of global warming, climate change, environmental and pollution barely register. However, when faced with responding to a global warming/climate change questionnaire, of course the public is concerned. These mixed messages are confounding the climate change proponents, as demonstrated by the title of a new book by climate scientist Michael Mann, of the "hockey stick" temperature chart fame, and Pulitzer Prize winning political cartoonist Tom Toles. The book is titled, "The Madhouse Effect: How Climate Change Denial Is Threatening Our Planet, Destroying Our Politics, and Driving Us Crazy." The book is published by Columbia University Press, headquartered at the same university where the Earth Institute is based - an organization whose nine-member board of directors has no one possessing a scientific education or career. A third of the board is involved in media and crisis communications.

The share of GDP going to energy is up substantially from the 5.8% all-time lows recorded in 1998 and 1999

The frustration for environmentalists in not being able to motivate the American population to willingly overturn the existing energy business. According to the Energy Information Administration (EIA), in 2013, expenditures on energy as a share of U.S. gross domestic production (GDP) was 8.3%. That is up from the 2009 recession year when it fell to 7.4%. However, the share of GDP going to energy is up substantially from the 5.8% all-time lows recorded in 1998 and 1999. In 1981, at the tail end of the 1970s oil boom and following two huge global oil price hikes (1973 and 1979) due to Middle East instability, Americans spent 13.3% of the nation's GDP on energy. The lower percentages being spent on energy now



When Americans are left to name their most pressing concerns, the issues of global warming, climate change, environmental and pollution barely register

NOVEMBER 1, 2016

#### PAGE 21



Exhibit 20. Climate Activists Are Frustrated

Source: Amazon

reflect the significant efficiency gains of America's economy in the intervening years.

Right or wrong, Americans are reluctant to overthrow their existing energy system for something that may be more expensive and less assured in the future While global warming/climate change may be an issue to worry about, Americans believe its impact is a long way off, giving us time to adapt to the changing climate and to find alternative and less damaging energy sources. Right or wrong, Americans are reluctant to overthrow their existing energy system for something that may be more expensive and less assured in the future, especially as they struggle to navigate the maze of our new health system, representing 16% of our GDP, that was overhauled in 2010, and which is now proving to be more expensive and less satisfying. One economic overhaul at a time is their demand.

## **Government Should Tell Obama About Climate Change**

On our drive from Rhode Island to Houston, we took a scenic route in order to travel along the Skyline Drive in Virginia, which runs atop



#### The Blue Ridge Parkway runs south for 469 miles, the longest linear national park in the country

Yellowstone National Park was the first U.S. national park, and surprisingly, it was the first national park to be created anywhere in the world

The right-of-way for the Skyline Drive was purchased from owners without the condemnation process

Her observations contributed to a study showing that relocating the communities would lead to the citizens living a "better" life the Blue Ridge Mountains that are part of the Appalachian Mountain Chain. The 105-mile long Skyline Drive links up with the Blue Ridge Parkway at Rockfish Gap near Waynesboro, Virginia. From there, the Blue Ridge Parkway runs south for 469 miles, the longest linear national park in the country, through Virginia and into North Carolina. The Blue Ridge Parkway ends at Route 441 in North Carolina that forms part of the border between the Great Smoky Mountains National Park and the Cherokee Indian Reservation.

The Skyline Drive was built through and as a part of the Shenandoah National Park in Virginia, the first national park to be created in the eastern half of the country. Yellowstone National Park was the first U.S. national park, and surprisingly, it was the first national park to be created anywhere in the world. Amazingly, Yellowstone National Park was created by an act of Congress that was signed into law by President Ulysses S. Grant in 1872. But the effort to protect the wilds of the west began earlier in response to the writings of naturalist John Muir. The first response was for Congress and President Abraham Lincoln to place Yosemite under the protection of California during the Civil War. The response to Mr. Muir's writings led to the creation of Yellowstone National Park. The most active president protecting national land was Theodore Roosevelt who, during his term from 1901 to 1909, created five national parks, 18 national monuments, four national game refuges, 51 bird sanctuaries and over 100 million acres of national forest.

According to a display at one of the park's visitor centers, Shenandoah was authorized in 1926 and fully established on December 26, 1935. The head of the Interior Department under President Calvin Coolidge urged the creation of a national park in the eastern part of the country. A requirement was that it should be close to Washington, D.C. allowing people to see and enjoy the park. The Commonwealth of Virginia began slowly acquiring through eminent domain the farm land that forms the park and then gave it to the U.S. government provided it would be designated a national park. This led to the creation of the Shenandoah National Park. However, the right-of-way for the Skyline Drive was purchased from owners without the condemnation process. That explains why the highway required a number of engineering innovations in order for the road to be built due to the right-of-way being only 100 feet wide.

An aspect of the creation of the Shenandoah National Park, but largely ignored, was how farmers, businessmen and communities were evicted by the government. At one point, the Virginia hired a sociologist to help with developing a summer camp effort for locals, but actually this gave her a window into how the locals were living in the area. Her observations contributed to a study showing that relocating the communities would lead to the citizens living a "better" life. A few decades later, an investigation conducted by researchers associated with the Rockefeller Foundation, the creators of



It ultimately required 52 years to

finish the parkway

Williamsburg, Virginia, found that the progressive conclusions of the earlier study were flawed and that the communities actually were vibrant, the people were highly educated and their lives actually were harmed by the forced evictions. Another black mark on government actions in the social arena.

The Blue Ridge Parkway was constructed to connect the two national parks – the Shenandoah and the Great Smoky Mountains. The project, approved by President Franklin Roosevelt for the North Carolina leg in 1935 and the Virginia leg in 1936, was constructed by the Works Progress Administration (WPA) and Civilian Conservation Corps (CCC), both depression-era economic stimulus programs. It ultimately required 52 years to finish the parkway.

After learning about the history and social aspects of the creation of the Shenandoah National Park and the Blue Ridge Parkway, we discovered a display about the geology and environmental history of the region. At Big Meadows, located at mile marker 51 of the Skyline Drive, there is the Byrd Visitor Center, named for the Byrd family, a storied family with a long-time and very active involvement in Virginia and national politics.

According to the display, the United States Geological Survey (USGS), a scientific arm of the federal government, brought in a rig and drilled a core sample from the floor of Big Meadows with the objective of learning about the history of the geology and forestation in the region. Exhibit 21 (next page) shows a plot of the forest prehistory of the Blue Ridge Study Area. While it may be difficult to read the text (we had to deal with spot lights on the display's text), the chart shows how the "researchers believe that the climate changed considerably many times in the last 45,000 years." If one examines the chart showing the type of forest associated with various temperatures, there have been numerous forest types in the past. The temperature measures on the left-hand side of the chart show the estimated mean annual temperatures. The temperatures ranged from 25° F to 65° F.

The government estimates that the current forest type in Shenandoah coincides with a mean temperature of slightly below 55° F. Importantly, temperatures were higher during two previous times – about 2,000 and 5,000 years ago. Another interesting point is that the supposed temperature dropped steadily after reaching a peak 5,000 years ago and then spiked back to that peak at 2,000 years ago, but almost immediately fell back and has remained below the 55° F mark.

We find it remarkable that the entire temperature change from about 12,000 years ago to 5,000 years ago has "question marks" on the connecting line. There is a similar question mark on the line connecting the estimated temperatures of 42,000 to 37,000 years ago. What do these question marks mean?

#### The chart shows how the "researchers believe that the climate changed considerably many times in the last 45,000 years"

The current forest type in Shenandoah coincides with a mean temperature of slightly below 550 F





Exhibit 21. Hundreds Of Miles Climate Differences In Past

The most interesting part of the exhibit to us, however, was the commentary about the history of the region as projected from studying the region's geological core. Those observations are contained in Exhibit 22 (next page): "In the past, the climate here got as cold as northernmost Canada. Fossil mammal evidence from outside the Park indicates at other times it probably got as warm as present day Central America." It is interesting that the warmest estimation is based on observations from fossil evidence outside of the park. One has to assume that these fossilized mammals weren't able to make it to the top of the Blue Ridge Mountains. We guess that the information in the core sample doesn't substantiate the conclusion about the climate associated with the high temperatures.

The era when the mean annual temperature fell below 35° F, as shown on the chart, would most likely be the northernmost Canada climate designation. On the other hand, is the Central America comment meant to mean current temperatures? We would assume so, since they are among the highest temperatures ever, except for those estimated for 2,000 and 5,000 years ago. Maybe those are when it was like Central America. Without a substantive statement as to when and how that designation was reached, we are left with an "illusionary" conclusion.

The commentary goes on to highlight the sensitivity of climate to only a few degrees change in the annual mean temperature. This is a key point that has always been made in the reports issued by the United Nations Intergovernmental Panel on Climate Change. In the IPCC's 4th report, issued in 2007, the range of the temperature scenarios up to the year 2100 was between +1.1°C and up to +6.4°C. Now in the 5th report, issued in 2013, the values have been corrected downwards and now range from only +0.20 to +0.3°C to +5.5°C. As a result, the range of the temperature scenarios have been corrected downwards by approximately +0.9°C. Interestingly, the latest forecast range starts with a temperature that barely rises



"Fossil mammal evidence from outside the Park indicates at other times it probably got as warm as present day Central America."

The era when the mean annual temperature fell below 350 F, as shown on the chart, would most likely be the northernmost Canada climate designation

The range of the temperature scenarios have been corrected downwards by approximately +0.9°C

Source: Allen Brooks



Exhibit 22. Conclusions From Geological Survey

Source: Allen Brooks

#### The decline in the IPCC's forecast temperature range is significant

over the next 87 years, assuring in the future that climate change scientists will always be able to say their models were right. But if the commentary focuses on how the climate is impacted by small temperature changes, then the decline in the IPCC's forecast temperature range is significant.



#### Exhibit 23. Temperature Forecast More Modest Now

The change in the IPCC's view of how high future temperatures might climb has probably caused the shift in climate activists' focus to sea level rise and away from global warming

The Byrd Visitor Center exhibit demonstrates how variable the climate has been over the past 45,000 years. More importantly, the variation in climate from one similar to that of northernmost Canada to another similar to that of Central America has occurred while carbon dioxide concentrations never reflected the impact of humans and the burning of fossil fuels. The change in the IPCC's view of how high future temperatures might climb has probably caused the shift in climate activists' focus to sea level rise and away from global warming. Maybe Mr. Obama and Mrs. Clinton should take advantage of the reason for the creation of the Shenandoah National Park and go and see and partake in the natural beauty of the region. They might learn something along the way about climate change.



### **Carbon Taxes Are Popular With Some Until They Are Not**

The preferred method for charging for pollution is to levy a tax on the carbon content of fossil fuels In the world of economics, the preferred method for charging for pollution is to levy a tax on the carbon content of fossil fuels. That is considered to be the least economically-disruptive method. Alternatively, carbon pollution can be regulated by creating tradable pollution permits/credits or through subsidies. The topic of carbon taxes is gaining attention as a possible solution for nations to meet their Paris Climate Agreement commitments.

In Canada, where four provinces already levy a carbon tax, Prime Minister Justin Trudeau has proposed that the federal government institute a national carbon tax. He has suggested that the tax be established such that if any province has not instituted its own

carbon tax by 2018 then the federal one would take over in the

of the Environment to discuss the country's environmental and

climate goals prior to this year's U.N. Conference on Climate

Change, which will begin on November 7 in Morocco. Four

world that have such a tax currently in place, according to

information from the World Bank.

province. This plan emerged from a meeting of provinces' Ministers

Canadian provinces have carbon taxes – British Columbia, Alberta, Ontario and Quebec – accounting for 80% of the nation's population. Now the ministers want a tax to cover the remaining 20%. With a federal carbon tax, Canada would join 14 other countries around the

Four Canadian provinces have carbon taxes – British Columbia, Alberta, Ontario and Quebec – accounting for 80% of the nation's population

The tax would begin at \$10 per ton and would rise by \$10 annually to \$50 a ton in 2022 Under the proposed plan, provinces would be able to choose between a direct pricing of carbon via a carbon tax, or to create a carbon market via a cap-and-trade system. The tax would begin at \$10 per ton and would rise by \$10 annually to \$50 a ton in 2022. The revenue would be recycled directly back to the province, which would be able to decide independently how best to reinvest the money.

Nationally, 69% of Canadians surveyed thought that a national carbon tax was a good or acceptable idea

This idea represents an<br/>imaginative way to deal with a<br/>weak Canadian economy due to<br/>low commodity prices that are<br/>hurting the western provinces,<br/>while helping the country meet its<br/>environmental commitmentsW<br/>as<br/>as<br/>m

According to a recent poll by Abacus Data, nationally, 69% of Canadians surveyed thought that a national carbon tax was a good or acceptable idea. In Alberta, which already has such a tax, and in Saskatchewan that doesn't, about two-thirds of survey respondents within these oil-producing provinces are opposed to the idea.

What was an interesting twist with the poll was the question that asked about the idea of linking a carbon tax to the construction of a new pipeline to move Canadian oil and gas to new international markets. The question was overwhelmingly favored, receiving nearly a 75% approval. Importantly, a majority of respondents in each province approved of the idea. The favorable rating in Alberta was 92%, while it was 83% in Saskatchewan. This idea represents an imaginative way to deal with a weak Canadian economy due to low commodity prices that are hurting the western provinces, while helping the country meet its environmental commitments.



The carbon tax is proposed to be revenue neutral, which is the desired public policy because it causes the least economic distortion

The revenue citizens and businesses pay due to the implementation of the carbon tax will be returned to them by reducing sales and business taxes maximum.

"The Democratic Party, community-of-color groups, organized labor, big liberal donors, and even most big environmental groups have come out against it"

This political flap suggests that this targeted carbon tax is just another tax The idea of a carbon tax in the State of Washington has gone in a very different direction than in Canada. Washington's bill - Initiative 732 - would become the nation's first carbon tax and one of the most meaningful ones anywhere. The initiative is on the ballot for this November's vote. The carbon tax is proposed to be revenue neutral, which is the desired public policy because it causes the least economic distortion. The structure of the initiative is that the tax will start at \$15 per metric ton (Mt) of carbon dioxide on July 1, 2017, and increase to \$25 a year later. After that the tax rate automatically increases annually by 3.5% plus the rate of inflation as measured by the Consumer Price Index for the most recent year for which data is available up to a rate of \$100/Mt when converted into 2016 dollars. If we assume that the economy runs at the Federal Reserve's target inflation rate - 2% per year - then the carbon tax rate will rise by 5.5% per year. Starting at the \$25/Mt level, the tax rate in 2019 would rise by \$1.375 to \$26.375/Mt. For a Washington state driver, the starting carbon tax equates to about a 15-cents-pergallon pump price hike, which would escalate to \$1 per gallon at its

Initiative 732 is structured so that the tax revenues flow into the state's general budget, but the retail sales tax rate would be reduced by one percentage point, the business and occupation tax on manufacturing would also be reduced, as well as implementation and enhancement of the existing working families' sales tax exemption for qualifying low-income persons. In other words, the revenue citizens and businesses pay due to the implementation of the carbon tax will be returned to them by reducing sales and business taxes.

One would believe that in a state where the people are as liberal and environmentally sensitive as those in Washington, the carbon tax would be overwhelming embraced. This appears not to be the case. According to a column written by conservative Steven Hayward, he quotes "David Roberts, a 'climate hawk' (as he describes himself)" as upset because the left opposes the carbon tax legislation. Mr. Roberts wrote: "The Democratic Party, community-of-color groups, organized labor, big liberal donors, and even most big environmental groups have come out against it."

One could rightly question why would all these liberal and even environmental groups be opposed to a carbon tax? The answer is, according to Mr. Hayward, "because the proposal doesn't result in a net tax increase or spend new funds for 'environmental justice." I guess we now know that carbon taxes must be utilized as a new revenue sources for governments to spend on other social issues or at least for environmental justice in order to be acceptable even to liberal voters. This political flap suggests that this targeted carbon tax is just another tax.



**PAGE 28** 

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