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## MUSINGS FROM THE OIL PATCH

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

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### From Heat And Humidity To Warm Days And Cool Nights

**The statistics for the show reflect the damage this downturn has inflicted on both the show and the oil industry**

We just completed our drive from our Houston home to our summer house in Rhode Island. Loading our car in Houston last Wednesday had us sweating. It was a reminder that traditionally, Houston's humidity arrives about the same time the city celebrates the importance of the petroleum industry with the annual Offshore Technology Conference. While we did not attend OTC because we were in Canada those days, the statistics for the show reflect the damage this downturn has inflicted on both the show and the oil industry. Initial reports said that booth space was down 6% from last year, but the attendance at the end of the three and a half day conference was only 68,000, down more than 26,000 from 2015, which in turn was down from the record 108,161 individuals who attended the 2014 conference.

**While optimism may be growing due to rising oil prices, the nearly two-year price downturn has taken its toll on the industry**

The reviews we heard from attendees were mixed – both good and bad. The different views may reflect why someone was at the conference, what their expectations were entering the building, how upbeat they are since global crude oil prices have rebounded by nearly 70% from their February low, and how well or poorly the company or business they are involved with is doing. While optimism may be growing due to rising oil prices, the nearly two-year price downturn has taken its toll on the industry and the likelihood is that it will take substantial time before activity can rebound, especially in the offshore sector.

**Our view of industry devastation became evident during the first leg of the journey**

With that outlook firmly implanted in our minds, we headed off to Rhode Island. Our view of industry devastation became evident during the first leg of the journey. We saw empty oilfield service company facilities, substantial idle and for-sale drilling, production and construction equipment. From Houston to Slidell, Louisiana, we seldom saw any oilfield service equipment on the road. We longed

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**The lone truckload of drill pipe we observed on the entire trip was on I-81 in Virginia**

to see one of those “hot shot” goose-necked pickup truck/trailer units racing to get some special equipment or parts to keep a drilling rig working. Surprisingly, the lone truckload of drill pipe we observed on the entire trip was on I-81 in Virginia, heading, we suspect, for one of the few rigs still working in the Marcellus formation further north.

**Aggressively targeting drivers as a source of revenue is not unusual for governments desperate for income**

The impact of the downturn was also reflected by the low volume of traffic on I-10, both cars and trucks. Largely empty parking lots of hotels along the highway in Louisiana further confirmed the downturn’s damage. While we can’t confirm it, the large number of Louisiana state police troopers and sheriff deputies actively issuing traffic tickets suggests the government is feeling the revenue impact from the devastation of petroleum industry activity. Aggressively targeting drivers as a source of revenue is not unusual for governments desperate for income. The large number of Louisiana troopers using radar guns from hidden locations, in our view, was a sign of that desperation.

**We wondered whether the state’s proximity to Washington, D.C.’s cash is the equal of a magnet and iron shavings!**

Traffic in general during our trip was relatively light. It appeared heavy, but usually only in areas where there was highway construction. Besides the high level of police activity in Louisiana, the only other area where we saw many police was in Alabama, but most were associated with the high level of construction activity. In fact, construction in the Birmingham area forced us to use an alternate route that we suspect saved us substantial time, but at the end still deposited us in the middle of very heavy and slow traffic. There also was construction-related traffic in Maryland and Pennsylvania. The former had us scratching our head as we have seen this stretch of I-81 being rebuilt for a second time in recent memory (since the Obama administration arrived in office). We wondered whether the state’s proximity to Washington, D.C.’s cash is the equal of a magnet and iron shavings!

**As we were inching along I-95 going into Stamford, we could see the lines of traffic for a long ways, on both sides of the freeway**

Saturday morning we encountered the worst non-construction traffic jams in our home state of Connecticut. We usually run into heavy traffic when we get on I-95 near Greenwich until we pass Stamford. This time it lasted much longer and traffic jams were repeated in other parts of the state. As we were inching along I-95 going into Stamford, we could see the lines of traffic for a long ways on both sides of the freeway. We had a flashback to when I-95 didn’t exist at that spot near where we grew up. At that time, the only truck route up the East Coast was Route 1, known in many locations as the Post Road since the mail used to be carried on that road. The stretch between New York and Massachusetts was known as the Boston Post Road. That road went through one city after another between New York City and Boston and there were lots of traffic lights and other driving challenges. For instance, in Darien, Route 1 through the center of town had to pass under the railroad tracks, so the highway was dug down making for a steep dip. My parents lived near the bridge and attested to the number of trucks that got stuck under the railroad tracks and had to let the air out of their tires in

**After I-95 opened, Darien experienced fewer school closings for weather**

order to get unstuck. In other cases, trucks had their tops shaved off by the railroad bridge, which was especially distressing for the owner of several classic cars that were being hauled on a trailer and had their tops sheared off.

The interstate highway system was designed to facilitate rapid deployment of military troops by eliminating their need to pass through cities and towns. The highways were also built to minimize the inclines trucks needed to navigate, allowing them to travel faster. Commercial vehicles using the highways were also able to travel faster by avoiding city and town centers, and by avoiding steep inclines and other traffic obstacles such as the Darien railroad bridge. For those of us living off Route 1, the opening of I-95 altered our lives. There was a steep hill between Darien and neighboring Stamford. Before I-95 opened, whenever it snowed, the trucks could not navigate the hill so they backed up into Darien forcing our school system to shut down because the school buses couldn't navigate through the backed up traffic. After I-95 opened, Darien experienced fewer school closings for weather. The opening of I-95 also coincided with the arrival of a new superintendent of schools in Darien. He came from New Hampshire and prided himself on getting out and driving the roads in town during snow storms. If he could navigate them, then school was opened. According to his son, who dated my sister, his father had never gotten stuck driving in the snow. We had to pray for blizzards in order for school to be shut.

**This time, all the signs we encountered listed numbers in the high 30s to high 40s for open parking spaces**

We have often reported on truck traffic in previous narratives about our road trips. Even when the truck traffic was light on I-10 and through Mississippi, truck traffic usually increased as we headed further north. That was not the case on this trip. In Tennessee, the state has catered to the new work rules impacting truck drivers by forcing them to rest for nine consecutive hours per day, usually at night. The state has built or expanded truck parking spaces at locations to accommodate the increased number of truckers who need to park overnight. To help the truckers, the state has erected electric signs telling drivers how many parking spaces were available at various sites ahead. This time, all the signs we encountered listed numbers in the high 30s to high 40s for open parking spaces. While we don't know exactly how many truck parking spaces are available at any one location, what we noticed on this trip is that the high number of openings compared to none to the low 10s last year – a sign of a weaker economy?

**The trucks at its rest stops were parked all along the entrance and exit ramps as the normal parking spots were full**

The decline in how many trucks parked overnight in the states we passed through was also evident at private truck stops where we could see many more empty spaces than in the past. But in Pennsylvania, which hasn't built more truck parking locations, the trucks at its rest stops were parked all along the entrance and exit ramps as the normal parking spots were full. The state's truck rest stops are fairly small compared to those in Tennessee and Virginia.

**We were also amused by a billboard in Chattanooga, Tennessee asking: Are You Frustrated By Trucks?**

The one thought that kept popping up was whether what we were observing about truck traffic was consistent with the weak economic activity and poor sales figures being reported by retailers. We were also amused by a billboard in Chattanooga, Tennessee asking: Are You Frustrated By Trucks? It was advertising a Trucks by Rail option to get the trucks off the road. Unfortunately, we couldn't read who was advertising the service, but a Google search suggests there are a number of truck and rail companies promoting intermodal transportation options.

**This truck had "Final Mile Service" on its side with an advertisement that this was a new service being offered by the firm to deliver packages to the door**

Two trucks we encountered stood out for us. One was an Amazon Prime truck. We are a member of that service but usually only see the FedEx or Post Office trucks delivering the packages. This tractor-trailer was obviously hauling goods between Amazon Prime warehouses. The other truck was owned by J. B. Hunt Inc., a leading privately-owned trucking company. This truck had "Final Mile Service" on its side with an advertisement that this was a new service being offered by the firm to deliver packages to the door. These two trucks reminded us of how much the retailing business has and continues to change as more Americans shop on-line and get their goods delivered to their homes. This is a trend with long-term implications for transportation fuels – gasoline for the cars shoppers are not driving to the malls and diesel for the trucks hauling goods to those same stores.

**Our conclusion was that the line had to be solid and freshly painted**

The last interesting development on our trip was how we dealt with the new driving technology on our vehicle. We have a new 2016 SUV that happens to have some of the rudimentary autonomous driving features that will be incorporated into self-driving vehicles. We have lane straying technology installed that when switched on will cause the steering wheel to vibrate when your vehicle drifts over a lane marker. We kept experimenting with it to see exactly how it worked in real-time. Our conclusion was that the line had to be solid and freshly painted. Good luck with that on America's highways.

**The new version has an algorithm that calculates the distance between your vehicle and the one ahead and the relative speeds so it will apply the brakes well before you reach that vehicle bringing your speed down to the speed of that vehicle while maintaining a safe distance**

The other interesting technology was associated with the vehicle's speed control system. We have an earlier version of the same vehicle and we use speed control frequently when traveling in it on highways. In that vehicle, the speed control needs to be manually disengaged by tapping the brake when you approach another vehicle. The new version has an algorithm that calculates the distance between your vehicle and the one ahead and the relative speeds so it will apply the brakes well before you reach that vehicle bringing your speed down to the speed of that vehicle while maintaining a safe distance. The braking can be hard or moderate depending on the algorithm's calculation of the speed differential. While it is a nice feature, if you want to close the gap between the two vehicles, you need to override the speed regulator. We found that with any traffic density, especially with vehicles constantly changing lanes, your vehicle will be speeding up and slowing down frequently, which became annoying. Our conclusion is that this new

**We think self-driving vehicles will take longer to enter the mainstream of personal transportation than many people anticipate**

version of the speed control offered a nice feature in braking your vehicle as you rapidly approached a slower vehicle. However, if there was any amount of traffic, that feature had to be overcome as other vehicles would enter the space between your vehicle and one in front forcing your vehicle to jam on the brakes and slow even more. As this technology is key to self-driving vehicles, based on our experience, we think self-driving vehicles will take longer to enter the mainstream of personal transportation than many people anticipate.

**It will be interesting to see how quickly the trees develop and the temperatures rise at night**

We left the heat and humidity of Gulf Coast Texas and arrived at the warm days and cool nights of Rhode Island. The greatest shock as we approached our summer home was how far behind even compared to Connecticut was the foliage here. Although the winter was mild, the spring has been cooler and, as a result, the trees are well behind in leafing out, meaning we could see many things in the woods nearby that we normally don't see. It will be interesting to see how quickly the trees develop and the temperatures rise at night. We are enjoying the lack of humidity right now.

## **Another Weekend Adventure For Saudi's Energy Policy**

**The 80-year old oil minister, the first Saudi president of Saudi Aramco and the well-regarded OPEC leader, had a storybook career in the nation's oil business**

A week ago last Saturday, the news broke that Saudi Arabia was sacking its long-time oil minister, Ali bin Ibrahim al-Naimi. Immediately, oil industry pundits began speculating on what this change meant for the kingdom's oil policy, and importantly for world oil markets. The 80-year old oil minister, the first Saudi president of Saudi Aramco and the well-regarded OPEC leader, had a storybook career in the nation's oil business. Born in 1935 in the oil rich Eastern Province of Saudi Arabia, this Shiite Bedouin nomad spent his early years moving from one spring to another with his extended family and their livestock. At eight years old, his mother sent him to live with his father in Dammam where he attended a school operated by the Arabian American Oil Co., then known as Aramco, which eventually became Saudi Aramco following the nationalization of the oil industry in the 1970s.

**The American CEO responded, "If that's the case, you'll need an education"**

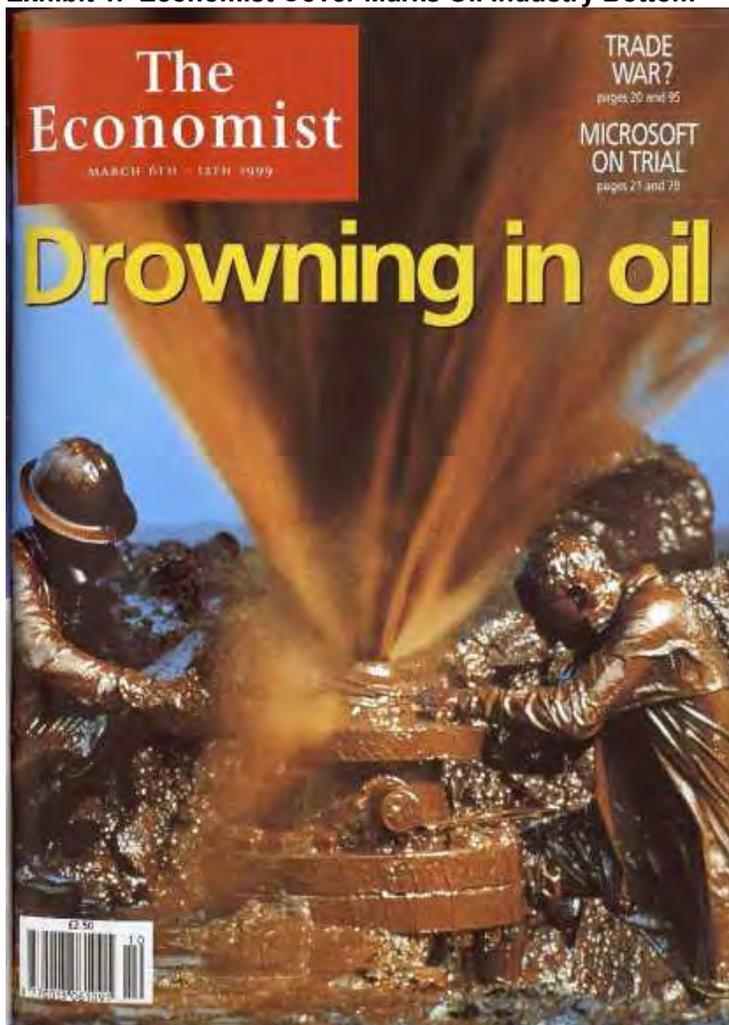
At 12, al-Naimi became a mail boy at Aramco, taking over for his brother after his sudden death. Reportedly, he shined as a star typist. One day at the Aramco offices, the American CEO stopped al-Naimi in the hallway and asked him what he wanted to do with his life. According to the story al-Naimi told classmates at Lehigh University, he said, "Well, sir, someday I would like to have your job." The American CEO responded, "If that's the case, you'll need an education."

Aramco sent al-Naimi to school in Beirut and then on to Lehigh University in Pennsylvania and eventually to Stanford University in California, where he earned a master's degree in geology. He returned to Saudi Arabia and Aramco where he progressed through

**He has often pointed to that experience and has often stated, “We will not make the same mistake again”**

a series of oil production and executive positions, culminating in his appointment as the company’s first Saudi president in 1984, and four years later he became its CEO. His arrival at the top of Aramco coincided with the 1980s oil bust. He was present when Saudi Petroleum Minister Ahmed Zaki Yamani slashed Saudi oil output from 10 million barrels a day in 1981 to 3.5 million barrels a day in 1986 in an attempt to support OPEC’s stated oil price as demand fell and fellow members continued to cheat on their production quotas. As oil prices continued to fall, reaching a low of about \$10 a barrel, King Fahd fired Mr. Yamani and Saudi Aramco began pumping more oil in an attempt to regain the market share it had lost during the prior half decade while it was defending the organization’s official price. That experience was etched in the mind of al-Naimi. He has often pointed to that experience and has often stated, “We will not make the same mistake again.”

**Exhibit 1. Economist Cover Marks Oil Industry Bottom**



Source: *The Economist*

**For oil market analysts, the irony of the resolution of that downturn was that on March 4, 1999, *The Economist* published its infamous cover story with the headline “Drowning in Oil” and its lead story entitled “The Next Shock?”**

**The problem was that al-Naimi kept the best gas fields for Aramco while offering less attractive fields to Exxon Mobil Corp. (XOM-NYSE) and other oil companies**

**A year later in a seminar in Washington, D.C., he told the audience that “[Saudi Arabia’s] ultimate aim is to diversify away from our overreliance on oil revenues”**

In 1995, al-Naimi was promoted to petroleum minister. His tenure got off to a rocky start when he persuaded OPEC to expand its production in November 1997 in response to China’s growing oil consumption. The production increase came just as the Asian financial crisis was deepening leading to a recession in the region, which contributed to a 50% decline in global oil prices over the next two years. Resolution of the oil price decline occurred in March 1999 when OPEC, Mexico, Norway, Russia and Oman joined together to reduce their output. For oil market analysts, the irony of the resolution of that downturn was that on March 4, 1999, *The Economist* published its infamous cover story with the headline “Drowning in Oil” and its lead story entitled “The Next Shock?” At that time, oil was \$13 a barrel having steadily declined over the previous two years when it sold for as much as \$28 a barrel. Over the next two years, oil prices tripled. At the time of the production agreement, the International Energy Agency (IEA) in its April 1999 Oil Market Report stated the following: “Saudi Arabia was able to drop quietly an ineffectual market share/production level maintenance strategy without the appearance of abrogating principles.” That conclusion reflected positively on al-Naimi.

However, another bad performance for al-Naimi was his negotiations with Western oil companies about helping Saudi Arabia develop its natural gas reserves. In the late 1990s, then-Crown Prince Abdullah was trying to lure back foreign energy firms to help Saudi Arabia develop gas for industrial projects such as electricity generation, water desalinization and petrochemical plants. The problem was that al-Naimi kept the best gas fields for Aramco while offering less attractive fields to Exxon Mobil Corp. (XOM-NYSE) and other oil companies. In fact, Aramco’s geologists often doubted that the fields they were offering held any gas resources. This issue led to a contentious confrontation between al-Naimi, Saudi Foreign Minister Saud al-Faisal and ExxonMobil Chairman and CEO Lee Raymond over the field offered his company. The result has been that Saudi Aramco has struggled to develop its natural gas reserves, something that is growing in importance as the country’s power and water demands are growing with its rapid population increase. With more natural gas, less crude oil will be burned to generate power, allowing more of it to be exported.

Al-Naimi subsequently became known for being a shrewd manager of OPEC oil policy and a straight-shooter on Saudi Arabia’s oil policy image. He did, however, understand the risk to his country and its economic foundation by the growing climate change movement. In 2012, al-Naimi told reporters that “Demand will peak way ahead of supply.” A year later in a seminar in Washington, D.C., he told the audience that “[Saudi Arabia’s] ultimate aim is to diversify away from our overreliance on oil revenues.” And in 2015 in a speech in Riyadh, al-Naimi said that Saudi Arabia would stand “firmly and resolutely” with others who oppose any attempt to marginalize oil consumption. He went on to say, “There are those who are trying to

**Ambassador Smith wrote: “Part of the explanation for this schizophrenic position is that the Saudi Government has not yet thought through all the implications of a climate change agreement, in part because it may not fully understand the various demand scenarios”**

**The field’s expansion is scheduled to be complete by the end of May and will ultimately boost the field’s output of extra light grade crude oil with an API gravity of 42 degrees from 750,000 to one million barrels a day**

**Producing more oil as Saudi Arabia is doing will act to keep oil prices from soaring even as U.S. and various OPEC member outputs fall**

reach international agreements to limit the use of fossil fuels, and that will damage the interests of oil producers in the long-term.”

The arrival of the Obama administration heightened Saudi Arabia’s concern about the future path of oil demand. According to a 2010 memo between James Smith, U.S. Ambassador to Riyadh and then-Energy Secretary Steven Chu, Ambassador Smith stated: “Effectively, peak oil arguments have been replaced by peak demand.” In a 2009 memo following the U.N. climate change conference in Copenhagen, Ambassador Smith wrote: “Part of the explanation for this schizophrenic position is that the Saudi Government has not yet thought through all the implications of a climate change agreement, in part because it may not fully understand the various demand scenarios.” Those memos followed on a 2006 State Department dispatch stating that “Saudi officials are very concerned that a climate change treaty would significantly reduce their income.” This sensitivity to a future of diminishing oil demand lies at the heart of the new Vision 2030, recently unveiled by Deputy Crown Prince Mohammad bin Salman.

The replacement of al-Naimi as Saudi Arabia’s oil minister should not be a total surprise. He had openly discussed his desire to retire. In fact, in December 2010, Saudi’s Supreme Petroleum Council, chaired at that time by King Abdullah, asked al-Naimi to nominate candidates to succeed him as oil minister. Reportedly he provided two names, one of which was Khalid al-Falih, a 1982 mechanical engineering graduate of Texas A & M University, and most recently the chairman of Aramco. The choice of al-Falih to replace al-Naimi signaled that Saudi Arabia’s oil policy would not change. In fact, the latest news from the country suggests that Aramco is preparing to ramp up the country’s output to keep up with growing global oil demand. At a press conference, Aramco CEO Amin Nasser indicated that before the end of the year it would boost production from the Shaybah field located in the Empty Quarter desert near the border with the United Arab Emirates. The field’s expansion is scheduled to be complete by the end of May and will ultimately boost the field’s output of extra light grade crude oil with an API gravity of 42 degrees from 750,000 to one million barrels a day. Deputy Crown Prince Mohammad has also declared that Saudi Arabia will go to 11 million barrels a day in output and eventually to 12 million, at the same time he has said that the country’s new vision for its economy is unconcerned with whether oil prices are \$30 or \$70 a barrel.

The appointment of a much younger al-Falih to replace the aging al-Naimi, is in keeping with the generational leadership change underway in Saudi Arabia. Producing more oil as Saudi Arabia is doing will act to keep oil prices from soaring even as U.S. and various OPEC member outputs fall. The current rise in oil prices is supported not only by evident production declines around the world, but also by the rise in unscheduled outages such as Canada’ oil

**Saudi Arabia will certainly welcome the additional income from higher oil prices, but it is equally concerned with generating more rapid oil demand growth**

sands and oil output from Nigeria's Delta region. The latter outages are temporary, but they are helping to more rapidly correct the oil inventory glut. That trend is leading to more optimistic outlooks for a quicker balancing of global oil supply and demand. Saudi Arabia will certainly welcome the additional income from higher oil prices, but it is equally concerned with generating more rapid oil demand growth. Until demand growth accelerates, Saudi Arabia will remain locked in an intense battle for market share, especially in Asia, with Russia and the expanding output from a recovering Iranian oil industry.

**The ability to make that transition will provide greater assurance that Saudi Arabia will not become another failed Middle Eastern state.**

The market shock of the replacement of al-Naimi as Saudi Arabia oil minister has worn off. We suggest, however, that people should not be surprised by further policy and leadership changes in the Kingdom. The urgency for royal leadership to put in place the policies and leadership that it believes can successfully navigate the transition of the Saudi economy and its society from one totally dependent on oil to one based on a more diverse industrial and financial foundation is intense. The ability to make that transition will provide greater assurance that Saudi Arabia will not become another failed Middle Eastern state. The world should be rooting for a successful transition even it means moderate oil prices for many years into the future, which will challenge the economies of oil exporting countries around the world.

## **Wealthy Tech Leader Sees Basic R&D Key To Energy Issue**

**The interview focused on his decision to commit a portion of his wealth, up to \$2 billion, for moving the world beyond fossil fuels**

We just read an interview with Bill Gates in *The Atlantic* magazine published at the end of 2015. The interview focused on his decision to commit a portion of his wealth, up to \$2 billion, for moving the world beyond fossil fuels in order to help mitigate any potential damage from climate change. As you may remember, he made a pitch at the UN's Paris climate change summit last November to lead a group of wealthy individuals who would commit money for clean energy research and development, an area of high opportunity.

**What was interesting in the interview was his grasp of the illogic of some of the arguments for green energy**

In the interview, Mr. Gates is highly critical of the role of government, while fully admitting that the private sector hasn't done much better when he considers the success rate of venture capitalists. He realizes that he is attempting to accomplish something that has never been done before, which is to invent our way out of the slow pace of energy fuel transitions. What was interesting in the interview was his grasp of the illogic of some of the arguments for green energy. As a result, Mr. Gates wants to see the focus of new energy R&D directed toward finding a carbon-free source of energy that effectively competes with fossil fuels in their energy-delivery quality.

In discussing the problems of wind and solar power, Mr. Gates discussed the challenges of intermittency in a world that needs power 24 hours a day. With the focus on battery technology, Mr. Gates made the following comment:

**“But it doesn’t’ come at night, it doesn’t come after the sun hasn’t shone, so the fact that in that one moment you reach parity, so what?”**

**They referred to Mr. Gates’ efforts as “moon shots”**

“There are many people working on storage – batteries are a form of storage, and there’s a few others, like compressed air, hot metals. But it’s not at all clear that we will get grid-scale economic storage. We’re more than a factor of 10 away from the economics to get that.”

Mr. Gates also highlighted the problem with the green arguments about how wind and solar power costs have declined so much that they are competitive with fossil fuels on a leveled basis. Mr. Gates said this about those economic arguments:

“They have this statement that the cost of solar photovoltaic is the same as hydrocarbon’s. And that’s one of those misleadingly meaningless statements. What they mean is that at noon in Arizona, the cost of that kilowatt-hour is the same as a hydrocarbon kilowatt-hour. But it doesn’t’ come at night, it doesn’t come after the sun hasn’t shone, so the fact that in that one moment you reach parity, so what? The reading public, when they see things like that, they underestimate how hard this thing is. So false solutions like divestment or ‘Oh, it’s so easy to do’ hurt our ability to fix the problems. Distinguishing a real solution from a false solution is actually very complicated.”

These are refreshing comments from an environmentalist who sees a long-term problem and is interested in finding a true solution rather than a “feel-good” solution that probably is unworkable in the real world. At the time the article was published and Mr. Gates was parading in front of the climate change audience in Paris there was pushback from people questioning his idealism and offering opinions that the changes and technologies needed won’t develop as quickly as suggested. They referred to Mr. Gates’ efforts as “moon shots.” Our understanding of Mr. Gates’ energy technology investing is that he is agnostic about which technology might work and more interested in seeing that true scientists are free to research any idea that often must be sacrificed to secure R&D funding. In his view, basic scientific research is what leads to true breakthrough technologies. If Mr. Gates holds true to that principle, then we applaud his effort.

## **Fossil Fuel Divestment Might Focus On Tobacco Investments**

**CalPERS, the largest pension fund measured by assets under management in the United States, announced it may reconsider its decision made 16 years ago to divest its tobacco holdings**

The environmental effort led by 350.org and the Rockefeller Brothers Fund to force institutions and college endowments to divest their fossil fuel investments might want to look at a recent announcement by CalPERS. The California Public Employees’ Retirement System, the largest pension fund measured by assets under management in the United States, announced it may reconsider its decision made 16 years ago to divest its tobacco holdings. This is a dramatic announcement for two reasons – the rationale for the social investment decision has cost CalPERS dearly and the anti-fossil fuel movement has modeled its effort after the success of the anti-

**The fund has lost as much as \$3 billion in net investment gains between 2000 and 2014 by not investing in them**

apartheid movement in South Africa in the 1980s and the tobacco divestment program in the 2000s.

The re-examination of CalPERS' investment strategy with respect to tobacco stocks has been driven by a report of an outside consultant that concludes the fund has lost as much as \$3 billion in net investment gains between 2000 and 2014 by not investing in them. For a fund that today has about \$300 billion in assets, a \$3 billion loss of investment income is meaningful (1%).

**Exhibit 2. How CalPERS Lost On Tobacco Investments**

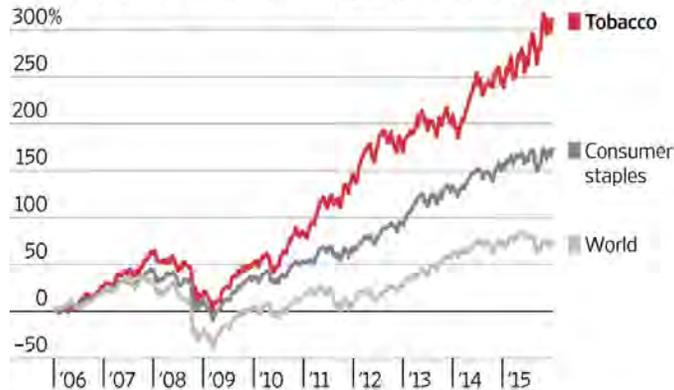
**Lighting Up**

Calpers is considering dropping its ban on investing in tobacco stocks.

**Maximum missed net investment gains from divestitures until end 2014**



**Change in MSCI World total return indexes, weekly data**



Sources: Wilshire Consulting (costs); FactSet (indexes) THE WALL STREET JOURNAL. Source: *The Wall Street Journal*

**There were also questions about how the computations were made**

People critical of the Wilshire Consulting analysis point out that the report covered seven different divestment programs in only 17 pages. They acknowledged that there were pages of numbers but that the methodology was not explained so it was impossible to duplicate the analysis. They also believe that it was inappropriate to compare CalPERS “tobacco free benchmarks” against “tobacco inclusive standard benchmarks” and then use the difference to reflect the cost to CalPERS. There were also questions about how the computations were made – was the value of the stock sold, grossed up for the investment cost, and compounded forward? The report also did not identify what “tobacco free benchmarks” and “tobacco inclusive standard benchmarks” were used.

**There was also an issue in the analysis given that CalPERS shifted its investment focus during the period of the study**

There was also an issue in the analysis given that CalPERS shifted its investment focus during the period of the study. The tobacco stocks that CalPERS sold in the early 2000s were almost certainly largely domestic stocks. Since then, CalPERS has reduced its allocation to public stocks of all kinds, and domestic stocks most of all. In 2000, CalPERS had a 40% allocation to domestic equities. It now has a 51% allocation to public stocks, and half of that to foreign stocks, which means that domestic stocks have fallen in terms of their weight in the portfolio by roughly 37%. If Wilshire has not adjusted its analysis for that shift, it may have overstated the “cost” of the lack of tobacco investments by as much as a third.

**350.org claims that more than 500 institutions with assets of \$3.4 trillion have made some form of divestment commitment, up from 181 institutions with \$50 billion in assets two years ago**

The reason all of this analysis is important is due to the influence this study will have on the growing momentum of the fossil fuel divestment effort. According to a report in the *Financial Times*, 350.org claims that more than 500 institutions with assets of \$3.4 trillion have made some form of divestment commitment, up from 181 institutions with \$50 billion in assets two years ago. The problem is that it is impossible to calculate the value of shares that have actually been sold. 350.org says divestment is designed to make companies listen to the argument about climate change “in terms they might understand, like their share price.”

**‘If you think that symbolism doesn’t matter, think of Rosa Parks,’ he told the Milken Institute Global Conference**

The focus and intensity of the discussion about fossil fuel company divestment has increased since the Paris climate change conference at the end of 2015. It is now a topic often appearing on the agendas of broad investment oriented conferences. “Justin Rockefeller of the Rockefeller Brothers Fund said the decision to divest was meant as a symbolic gesture coming from a dynasty whose fortune is derived from the oil industry. ‘If you think that symbolism doesn’t matter, think of Rosa Parks,’ he told the Milken Institute Global Conference.”

**Despite the large legal costs, the tobacco industry has been able to thrive by finding new growth in emerging markets to counter the decline in smoking in mature economies**

While CalPERS claims that the decision to divest tobacco investments in 2000 was based on financial considerations, the fund was overseen by former state Treasurer and CalPERS board member, Phil Angelides. At the time, Mr. Angelides was promoting a broad agenda of socially-responsible investing, and his tobacco initiative was merely one component. What enabled him to persuade the board of CalPERS to sell tobacco stocks was that tobacco looked to be on its way to being the next asbestos industry, where the major firms went bankrupt as a result of litigation costs. A 1998 landmark settlement of litigation involving the tobacco industry opened the door to \$200 billion in costs over the years. Despite the large legal costs, the tobacco industry has been able to thrive by finding new growth in emerging markets to counter the decline in smoking in mature economies. Industry consolidation has also enabled the tobacco companies to become more profitable. Follow-on litigation has not been as devastating to the industry as many expected in the early 2000s and the companies’ steady dividends in a world of low interest rates has attracted substantial investment interest helping to drive share prices higher. The industry is still

**There is also the opportunity for fossil fuel companies to begin investing in clean energy and to help fund new energy technologies that may sustain and possibly enhance their profitability in the future**

subject to pending litigation that could saddle it with billions in additional costs, so there is still risk associated with tobacco investments.

What does all that mean for the fossil fuel divestment effort? All long-term forecasts suggest that oil and natural gas will remain important components of our energy supply. The current industry downturn will probably lead to a more profitable industry in the immediate future as efficiency, increased standardization and embracing new technology are likely to shift the industry's cost curve down for some period of time. There is also the opportunity for fossil fuel companies to begin investing in clean energy and to help fund new energy technologies that may sustain and possibly enhance their profitability in the future. Therefore, we might be reading of consultant reports in 2035 discussing how much investment returns had been missed by those institutions and funds who divested their fossil fuel holdings in 2016.

## Canada's Wildfires Prompt Environmental Attacks On Oil

**Forest fires are part of nature's mechanism for revitalizing old forests**

An opinion article in Canada's *Financial Post* newspaper discussed the issue of oil in light of the devastating wildfire that has destroyed part of Fort McMurray, the acknowledged capital of Alberta's oil sands industry. Contrary to what many people believe, oil did not cause the Fort McMurray forest fire, but rather it actually helped save the lives of people in the city. As Kevin Libin writes, "The technology of fossil fuel combustion is relatively modern; forest combustion is not." The point he was making is that forest fires are part of nature's mechanism for revitalizing old forests. In the United States, changes to the philosophy of how to manage the growth within national forests by the Clinton administration in the 1990s has contributed to a greater number of forest fires with many of them being larger than usual. The bottom line, as the article points out, is that wildfires have played a role throughout the history of Alberta's forests.

**Couple the dry forest with high winds that enabled flames to jump the kilometer-wide (3,280 feet) Athabasca River and allowed the fire to spread faster**

What was different this time was the location of Fort McMurray, a city of about 88,000 residents, many of whom work in businesses associated with Canada's oil sands deposits located north of the city. The impact of the warm winter and dry spring was a dried out boreal forest surrounding Fort McMurray, making it ripe for a fire. Couple the dry forest with high winds that enabled flames to jump the kilometer-wide (3,280 feet) Athabasca River and allowed the fire to spread faster and move more erratically than the small band of fire fighters were capable of controlling. With the fires out of control, the issue of fighting them quickly shifted to evacuating the residents. That was one way in which oil played a major role – it powered the vehicles that were used to get people, their pets and belongings out of harm's way. Mr. Libin also pointed out that oil is important for the chemical business that produces the plastic used in water bottles that people needed.

**The climate alarmists were quick to promote the idea that carbon emissions from the burning of the oil sands output is what caused the fires**

The climate alarmists were quick to promote the idea that carbon emissions from the burning of the oil sands output is what caused the fires. Mr. Libin discussed how carefully forestry professor David Martell, when he was interviewed on CBC, addressed the linkage between climate change and environmental damage. He said, “You can’t look at any particular fire and say this fire is the result of climate change.” But he then went on to try to make the point that over the long-term there might be a linkage. Comments attributed to Mr. Martell included that if “we go ahead 50 years” and the world experienced more large fires such as at Fort McMurray, “we’d probably reasonably conclude” that climate change played a role. What was undefined was what constituted “experienced more large fires.” These are often subjective calculations.

**Exhibit 3. Fort McMurray Fire Not Caused By Oil**

**Fort McMurray forest fire**

The Canadian province of Alberta raced to evacuate the entire population of Fort McMurray where an uncontrolled wildfire was taking hold in the heart of the country’s oil sands region, with dry winds forecast for Wednesday that could fuel the blaze.



Source: Regional Municipality of Wood Buffalo. Local time is GMT -7.  
C. Inton, 04/05/2016 REUTERS

Source: [globalnews.ca](http://globalnews.ca)

**Before the prominence of the oil sands, the city was the gateway to the boreal forest and the hub of the region’s waterway transportation system**

It is important to understand that Fort McMurray existed well before the production of the oil sands began, although most people would be surprised to know that fact. Fort McMurray is located at the crossroads of several rivers north of Edmonton. Before the prominence of the oil sands, the city was the gateway to the boreal forest and the hub of the region’s waterway transportation system. It was initially a trading post and later a center for processing fish and salt.

Mr. Libin pointed out that one benefit of the oil sands operation was its intense focus on safety, which probably contributed to the safe evacuation of Fort McMurray. Petroleum workers are well-trained to

**The best news is that while the city lost 2,400 homes and other structures, 90% of the city was spared, especially the schools, municipal facilities and utility infrastructure**

**As he pointed out, “All the wind turbines and solar panels in the world won’t help rescue 88,000 people from a rapidly spreading inferno”**

deal with accidents and disasters so they know that when they are told to do something, you do it. As a result, the city was successfully evacuated without any lives being lost. (We will not be surprised that some loss of life will be found once all the ruins are investigated.) The best news is that while the city lost 2,400 homes and other structures, 90% of the city was spared, especially the schools, municipal facilities and utility infrastructure. There is no timetable for when evacuees will be able to go home, but officials are beginning to assess the damage and the state of the utility infrastructure. The estimate is that it will be two weeks after the evacuation before all this assessment will be completed and a timetable for allowing people to return home will be prepared. There also is no timetable for restarting the one million barrels a day of oil sands output that has been suspended, although some facilities may be ready to start up soon.

Mr. Libin’s article was targeted at those climate alarmists who want to try to link the fire to the oil sands. He wanted to show how, without oil, there would have been no way to help the people who used to live at Fort McMurray before the petroleum age was born if such a fire had engulfed the city. As he pointed out, “All the wind turbines and solar panels in the world won’t help rescue 88,000 people from a rapidly spreading inferno. For a miracle like that, we can only count on oil.” As expected, the comments about the article on the newspaper’s web site were vicious and reflected views on both side of the climate change issue. Environmentalists continue to attempt to link the fire with climate change. The greatest problem for Alberta and Canada will be the cost of the fire and its impact on the regional and national economy.

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