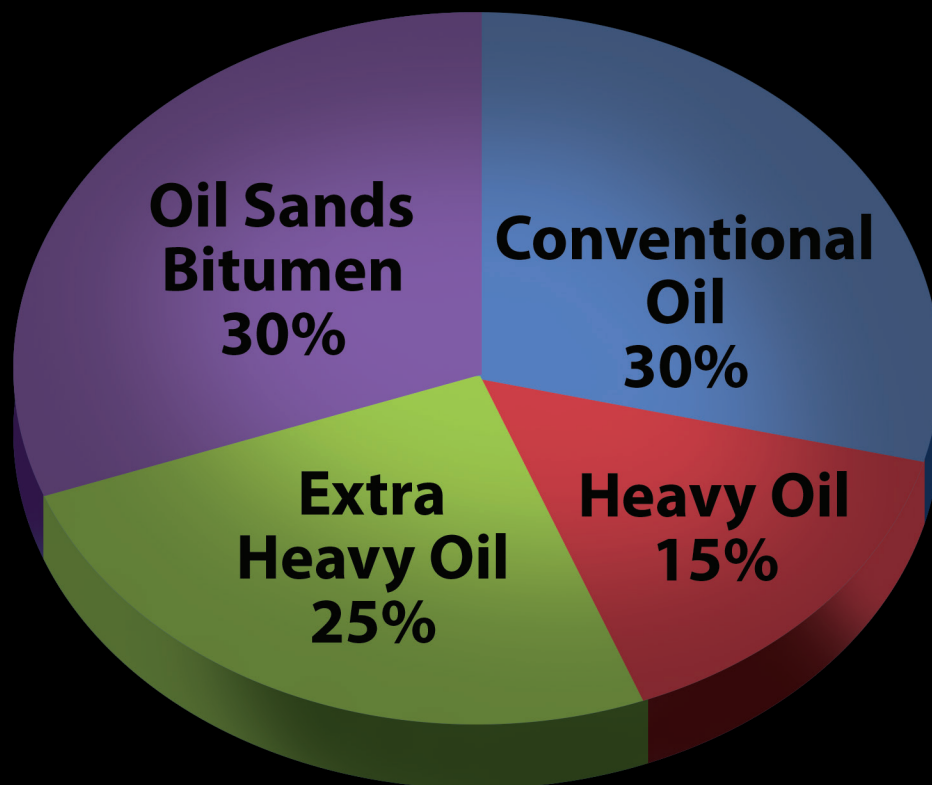


Vivakor

Vivakor's Oil Outlook

OIL: *The World's Energy Drink... Where's it Going?*

Total World Oil Reserves



Executive Overview

The state of affairs as it relates to the global oil picture is in a huge state of flux. We know this much, the world drinks 94M Barrels per Day (BPD) and seventy (70 %) percent of what's in the ground is heavy crude. World markets for petroleum and other liquid fuels have entered a period of dynamic change—in both supply and demand. The uncertainty of oil prices has us on the edge of our seats.

The geopolitical implications ranging from OPEC led by the Saudi's and the recent loss of their King and the new leadership along with their global political jujitsu moves, to the Russians and their grip on EU Gas coupled with the forgotten story behind the Ukraine, to Chinese inhalation of everything in sight or so it seems.

It all leads to the direct impact on the US Economy and how we conduct our lives or does it? While the United States have benefitted from a 50% reduction in the price per barrel and it has added nicely to net disposable income, are these reductions here to stay? Can the United States count on this quasi-stimulus long term?

Vivakor will attempt to shed some light on the geopolitical wrangling, population impact, global consumption and the short term and longer range oil outlook in brief and how the company fits into the picture.

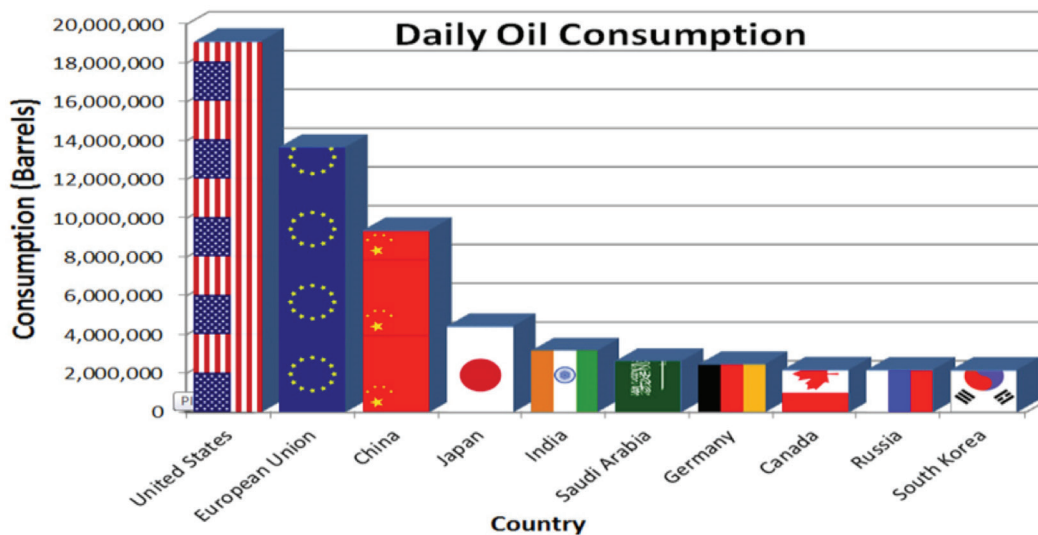
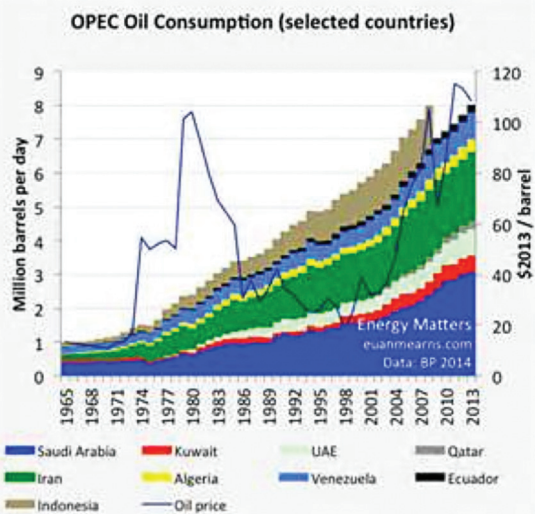


Table of Contents

Executive Overview	2
Saudi Arabia (OPEC)	4
Russia/Ukraine	4
China	5
Japan	6
Canada	6
United States	7
Population & Demand	9
Global Impact	10
U.S. Implications	11
Short Term Recap	13
Long Term Influence	14
Oil Sands Relevance	14

Short Term View

The short term view is mixed depending on whom you're listening to. There's a camp that suggests we've bottomed out and pricing is going to continue back up near previous levels and there are others that believe it will go back up but in a different manner. The latter viewpoint suggests more of a "W" pattern in prices as oil drives back up past \$70+ per barrel. Let's examine what's influencing the movement.



Saudi Arabia (OPEC) OPEC's strategy of choking off North American shale appears to be going according to plan. The number of active rigs is now at its lowest level since 2011, and is down 29 percent since October. This suggests that Saudi Arabia's plan of making North American shale producers "sweat" is bearing some fruit. Oil prices have started to rise, and on February 9, OPEC published a report projecting an increase in demand for its oil by an estimated 430,000 additional barrels per day, which will come largely at the expense of rival producers. OPEC revised its projection for non-OPEC supply down by 420,000 barrels per day as a result of shale producers pulling back. Under this scenario, OPEC goes a long way to achieving its goal of reestablishing order in the oil markets, putting the pain of adjustment on the backs of

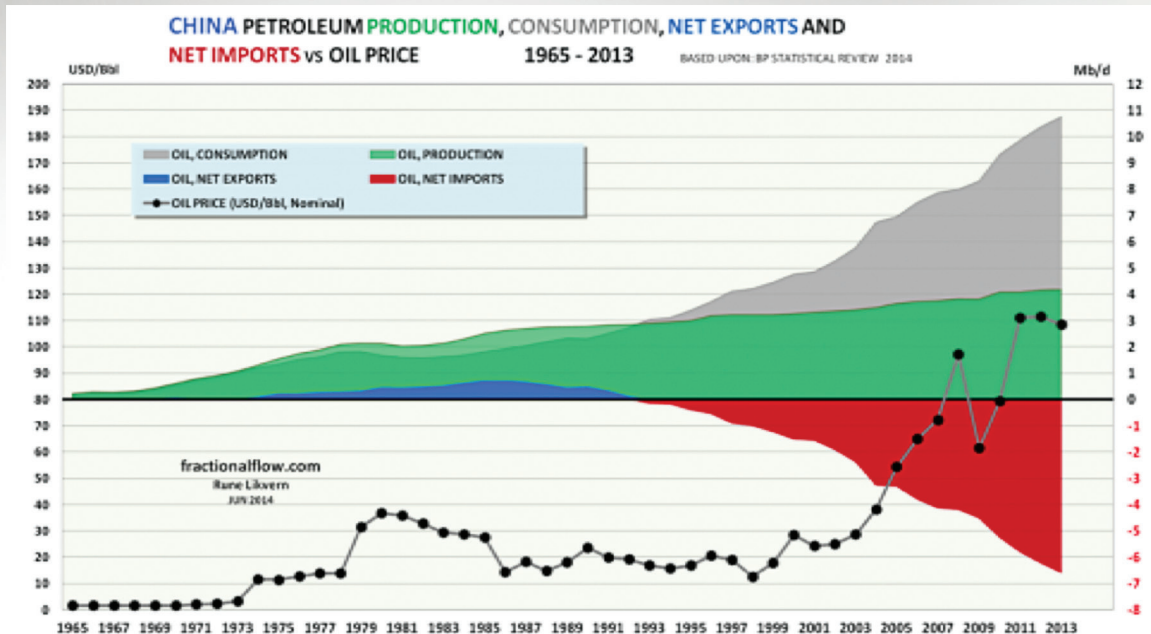
US shale drillers. With a contraction in North American shale, OPEC restores its primacy as a major market mover that drives global pricing.

Russia / Ukraine The prospects for a peaceful solution to the crisis in Ukraine still look daunting. German Chancellor Angela Merkel and French President Francois Hollande are conducting urgent diplomacy with Ukraine and Russia to try to calm the violence. Merkel and Hollande met with Russian President Vladimir Putin and Ukrainian President Petro Poroshenko in Minsk with the intention of reaching a ceasefire and it looks like an agreement has been reached. The negotiations are set against a looming backdrop – the U.S. is moving towards providing Ukraine with military assistance, but appears to be awaiting the outcome of Merkel's and Hollande's diplomatic efforts. A reality that has been lost for some time is the Ukraine's debt of \$3B owed to Russia's Gazprom, and the network of pipeline in Ukraine that feeds the EU and is owned by the Russians. This pathway means billions to the Russian economy. There's also not much talk about the pressure the Russians are attempting to place on the Saudi's for their oversaturation of the markets through OPEC's overproduction and its effect on them. Globally, oil prices began falling in June 2014 in response to increased production, primarily from US shale oil fields and weaker demand in Europe and Asia. OPEC has maintained its 30M barrel per day (BPD) output causing the steep decline.



SOURCES: East European Gas Analysis, The National Gas Union of Ukraine. RICH CLABAUGH/STAFF

China China is the world's most populous country with a fast-growing economy that has led it to be the largest energy consumer and producer in the world. Rapidly increasing energy demand, especially for liquid fuels, has made China extremely influential in world energy markets. China is the world's second-largest consumer of oil and was projected to move from second-largest net importer of oil to the largest in 2015.



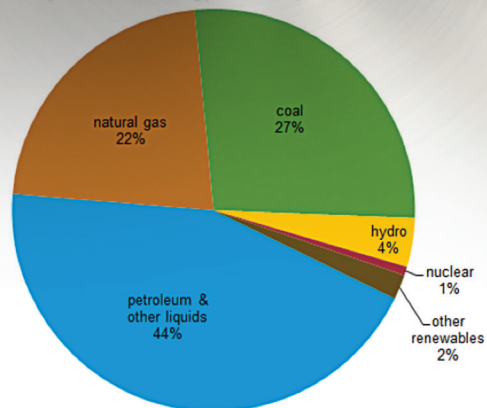
Substantial oil demand growth and geopolitical uncertainties have increased pressure on China to import greater volumes of oil from a wide range of sources. China added more than 600,000 barrels a day (bpd) in refining capacity last year, bringing the nation's total to near 14 million bpd. The jump in Chinese exports is also coming just after new export-focused refineries have added 800,000 bpd of capacity at Yanbu and Jubail in Saudi Arabia, putting further pressure on Asia's cracking profits.

China's demand growth is slowing, and with its big jump in processing capacity, that would typically mean a boost in diesel exports. But Chinese refiners have started producing more jet fuel and gasoline at the expense of diesel. "Demand (for jet fuel and gasoline) continues to be supported by the rapid expansion of China's emerging middle class population," said Benjamin Tang, a senior research analyst with energy advisory Wood Mackenzie.

Domestic demand growth for the two fuels is forecast to be down this year from recent peaks with the general slowing of China's economy, however, resulting in more supply for outbound sales than expected. More than half of the initial export quotas for 2015 are for jet fuel and a third are for gasoline, according to the sources with knowledge of the matter.

Japan Japan has limited domestic energy resources that have met less than 9% of the country's total primary energy use since 2012, compared with about 20% before the removal of nuclear power following the Fukushima plant disaster in March 2011. It is the third largest oil consumer and net importer in the world behind the United States and China. Japan is the world's largest liquefied natural gas importer, second-largest coal importer, and third-largest net importer of crude oil and oil products. Japan is the third-largest petroleum consumer in the world. The country relies almost solely on imports to meet its oil consumption needs because Japan's oil resources are very limited. Japan, the third-largest global net oil importer, is highly dependent on the Middle East for most of its supply. The country is seeking to diversify its supply sources in Russia, Southeast Asia, and West Africa.

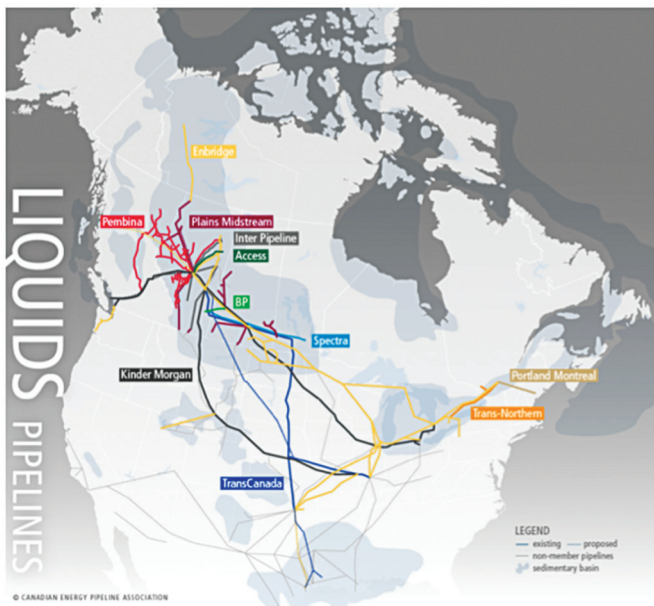
Japan's total energy consumption, 2013



Sources: U.S. Energy Information Administration's International Energy Statistics, BP Statistical Review of World Energy 2014

Canada Canada is a net exporter of most energy commodities and is an especially significant producer of conventional and unconventional oil, natural gas, and hydroelectricity. It stands out as the largest foreign supplier of energy to the United States, its southern neighbor and one of the world's largest consumers of energy. Just as the U.S. depends on Canada for much of its energy needs, so is Canada profoundly dependent on the U.S.

as an export market. However, economic and political considerations are leading Canada to consider ways to diversify its trading partners, especially by expanding ties with emerging markets in Asia.



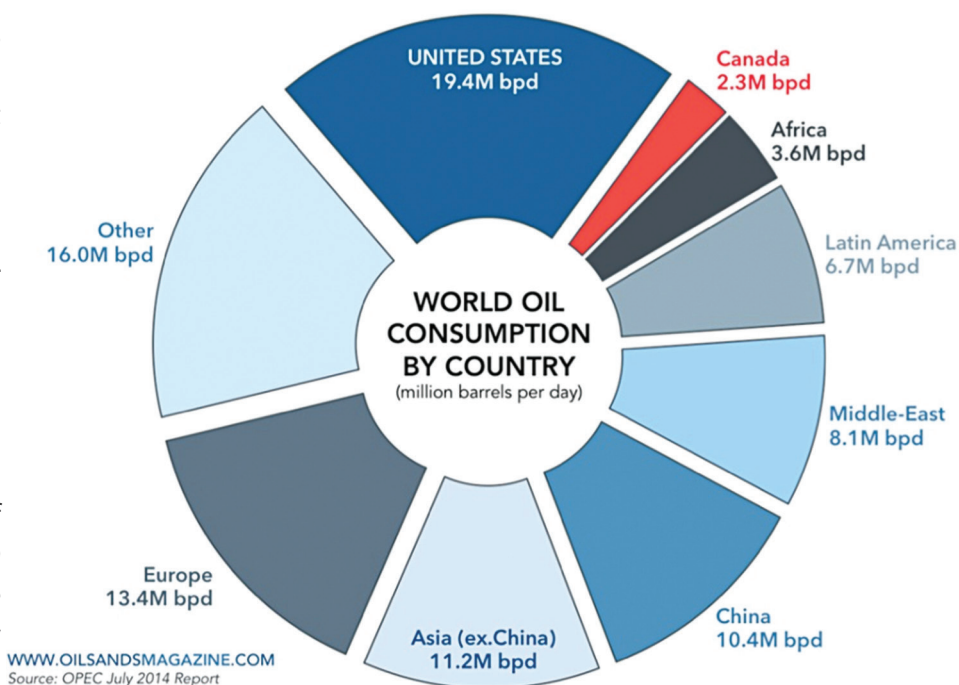
Canada's most important oil-producing region is the oil sands in Alberta, especially the Athabasca deposit. The oil sands are permeated with bitumen, which is a form of petroleum in a semi-solid state that is typically found blended with sand, clay, and water in its natural state. Canada's oil sands are a significant contributor to the recent growth and expected future growth in the world's liquid fuel supply, and they comprise most of the country's proved oil reserves, which rank third globally. Failure to build needed oil sands pipelines – particularly Keystone XL – could result in persistent price discounts

and slow expansion of the sector, even as North American production booms, the International Energy Agency claimed recently. The oil sands now account for approximately 167 billion barrels, nearly all of Canada's current proved oil reserves. The IEA forecasts that production in the oil sands will grow by 1.3 million barrels per day over the next five years, bringing Canadian output to five million barrels a day by 2018.

United States

The United States is the largest consumer of oil in the world utilizing 19.4M BPD. Since early 2014, the price of oil has plummeted. It peaked last year at \$105 a barrel and is now approximately \$50. The consumption and production of energy is a major component of the global economy. The huge drop in price has a significant impact in the United States — on corporate profits, employment and capital spending. Still, there has been a lot of misinformation — scare-mongering, really — about falling oil prices. A little context here can go a long way. The economics of lower oil prices are nuanced and complex. Consider the questions it raises. What is the economic impact? Is the decrease in energy prices good for consumers and manufacturers? Or are falling prices a sign of waning economic activity? How much will corporate profits be hurt? What does this mean for hiring? Most importantly for your portfolio.

The United States is producing nearly twice as much oil than it has in decades. It averaged a little over 5 million barrels a day in the 2000s. At the end of 2014, we were pumping over 9 million barrels per day. Total U.S. crude oil production averaged an estimated 9.2 million barrels per day (BPD) in January. Forecast total crude oil production averages 9.3M BPD in 2015. Given EIA's price forecast, projected crude oil production averages 9.5M BPD in 2016, close to the highest annual average level of production in U.S. history of 9.6M BPD in 1970. If these gains continue, the United States could become energy self-sufficient within a decade.



As it stands, rig counts continue to decline on a weekly basis as smaller operators are negatively affected by the lower oil prices. Capital lines are swiftly disappearing as all-in costs have spooked financiers. OPEC sharply raised a forecast of demand for its own oil in 2015, saying the halving in prices since June 2014 would slow production in the United States and other countries faster than previously thought. OPEC slashed its forecast for the rate of growth in non-OPEC supply by 420,000 bpd from last month's report to 850,000 BPD, partly due to a slowdown in the U.S. shale boom and lower capital investments by energy firms, arguing lower prices will also boost consumption. Interesting logic...

Long Term Influence

The long term outlook is positive across the board. Strong economic fundamentals in Asia-Pacific will prop up energy demand and support exploration and production activities. The long term outlook for the industry remains positive. Rapid population growth and economic development will continue to drive energy demand and thus expenditure on exploration and production activities across the globe.

The Energy Outlook projects global demand for energy will rise 37 percent by 2035, an average increase of 1.4 percent a year.

High oil prices and technological advances resulted in a major production boom in North America that will make the United States a net exporter instead of net importer of oil for the first time this year. Crude oil prices are expected to remain relatively low for several years, partly because U.S. production rose by 1.5 million barrels a day last year, the biggest annual increase in American history. But...

"After three years of high and deceptively steady oil prices, the fall of recent months is a stark reminder that the norm in energy markets is one of continuous change," BP Group Chief Economist Spencer Dale said. "It is important that we look through short-term volatility to identify those longer term trends in supply and demand that are likely to shape the energy sector over the next 20 years and so help inform the strategic choices facing the industry and policy makers alike."

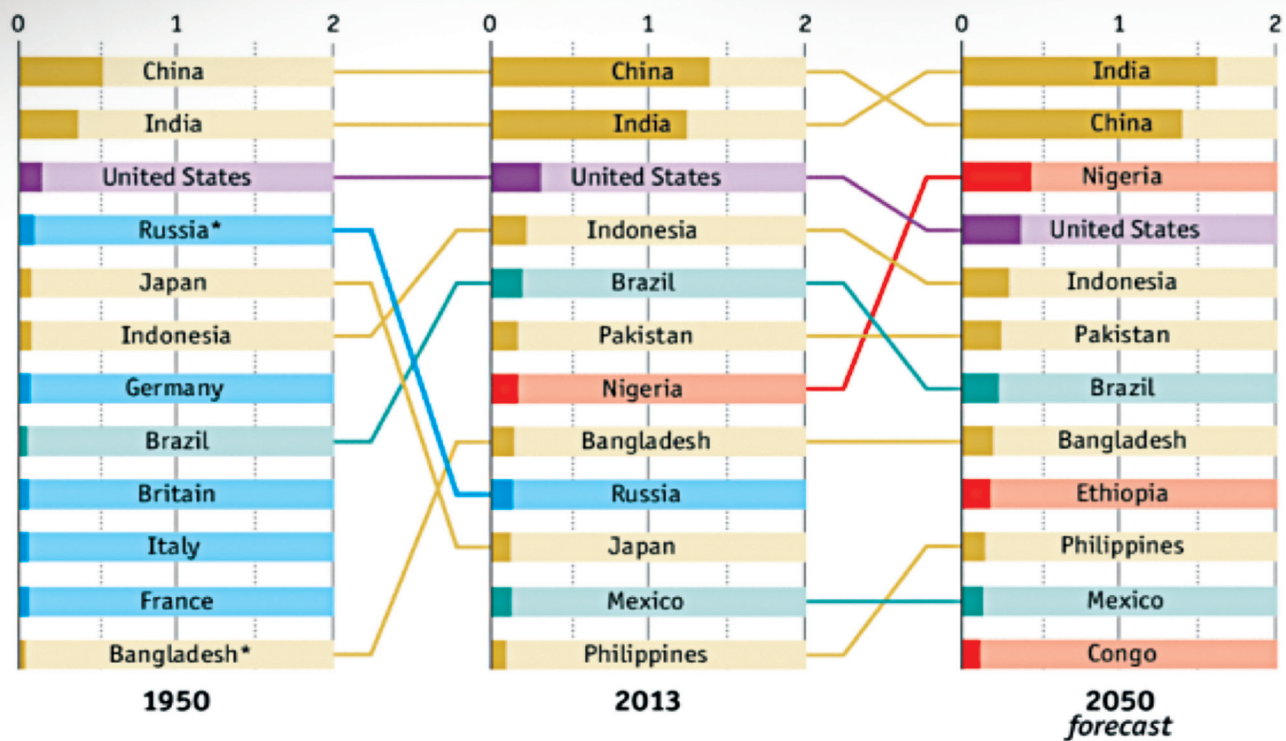
The United States, which imported 60 percent of its oil in 2005, is on pace to become entirely self-sufficient with oil by the 2030s. The use of different energy sources is becoming so diversified that by 2035 no one fuel will be dominant for the first time since the Industrial Revolution. Technology will lead the way again as new advancements in clean extraction methods will emerge in the US.

Population & Demand

The United Nations population division produces widely-cited forecasts with country detail on a number of key metrics, such as age structure and median age.

The latest update estimates the base population at 6.9B persons, projecting global population at 7.7B and 8.4B in 2020 and 2030, respectively, in a medium fertility scenario.

Most populous countries, bn



Source: UN; *The Economist*

*Did not exist as countries in 1950. Historical estimates made using modern borders

Our planet's population will continue to grow rapidly. Between 2010 and 2025 global population will grow by more than 1.1B people. The greatest growth will be registered in developing countries, while in the developed countries population will remain relatively stable. High rates of population growth are expected, first of all, in India, which will become the world's most populous country by 2020. Explosive population growth is also forecasted for the African countries where it will be the result of improvement in socio-economic conditions and enhanced quality of medical services.

Along with population growth, developing countries will experience the movement of the rural population to the cities, known as urbanization. According to the estimates of McKinsey Global Institute, by year 2025 over 440 cities in developing countries will contribute up to half of the global growth. At the same time the levels of consumption will grow. ***It is expected that by 2025 the size of the urban consumer class will grow by over 1B people and the overall middle class will amount to more than 50% of the total global population.*** The main growth will come from developing Asian countries. Urbanization and growth of the consumer class in developing countries will, in turn, promote demand for real estate, infrastructure, cars, hi-tech goods and, as a result, energy resources.

Global Impact

- **Global demand for liquid hydrocarbons will continue to grow.**

The growth of population and the consumer class in Asia will support oil demand increase. The main increase in consumption will come from transportation sectors in developing countries.

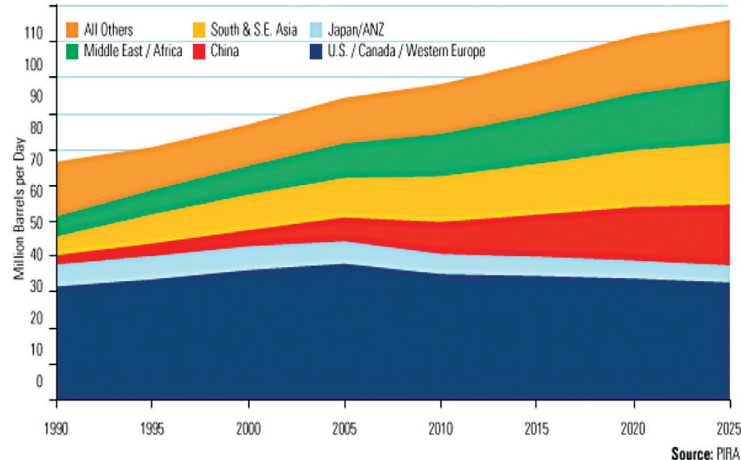
- **Increase of oil production in North America won't lead to a global oil price collapse.**

Modern methods of evaluation of shale oil reserves allow considerable uncertainty therefore we are cautious in our estimates of the US production potential. A number of factors including the growing cost of reserve replacement, the balancing role of OPEC and the depreciation of the US dollar will help to support the current levels of oil prices in the long term.

- **The European oil refining industry is experiencing a systemic crisis.**

Ongoing trends such as the decrease in US gasoline imports and the commissioning of new highly effective oil refineries in the Middle East and Asia will continue to have a long-term negative effect on European producers.

World Oil Demand 1990-2025



Ready or Not Here They Come

The motorization of the population in developing countries is one of the principal factors behind the future growth in demand for oil. Today developing countries are severely lagging behind developed nations in terms of the number of cars per 1,000 people, thus creating conditions for significant growth in the size of global car ownership. In the forecast period, the most noticeable increase in car ownership will take place in China, whose car market has already entered an intensive growth stage. In today's China the number of cars per 1,000 people is 40. By 2025 this figure will be close to 200, which will mean an increase of 220 million cars for the period of 2010-2025.

Significant growth in car ownership will also be registered in India and other developing Asian countries. By 2025 large-scale growth of car ownership will begin in Africa. Freight cars and trucks will make a strong contribution to the growth in consumption of motor fuels. The total number of such cars is expected to grow by 140M by 2025. According to estimates, the aggregate global car fleet will grow by 670M during the period 2010-2025. This alone will lead to an increase in fuel consumption of 9M BPD.

U.S. Implications

The last decade was characterized by unprecedented growth in exploration and production costs. According to current estimates, oil companies' expenditure on geological exploration, development and production have more than tripled since the beginning of the century. In many ways the increase in costs is tied to the depletion of the conventional oil resource base. The growing demand for hydrocarbons forces companies to develop unconventional and highly costly reserves. The companies are producing oil from deepwater shelves, operating high viscosity oil fields and extracting oil from tight reservoirs. In today's market about 15M BPD have commercial production costs above \$70/bbl, for example, shale oil projects in the US on average are profitable at \$80/bbl cost of oil. Therefore, even if demand for oil falls significantly, its equilibrium price is unlikely to stay below \$70-80/bbl for long. Future growth in production will primarily come from the development and operation of unconventional reserves.

From 2010-2025 over 70% of the increase in the supply of liquid hydrocarbons will come from the use of hi-tech production methods and alternative fuels such as Oil Sands, natural gas liquids (NGL), GTL/CTL and biofuel. The greatest increase in production will come from the deepwater shelf, tight oil reservoirs in the US and heavy crude from Canadian Oil Sands and Venezuela. We also expect an increase in the production of NGL, primarily in the Middle East and in the US. (Sources: IEA, IHS CERA, IHS Herold)

The development of horizontal drilling and hydraulic fracturing technologies have made profitable a significant amount of unconventional hydrocarbon reserves in the United States. This began with the active production of shale gas which led to the collapse of spot gas prices.

High oil prices in 2011-2012 forced many companies to start active drilling in unconventional reservoirs containing liquid hydrocarbons. In 2011 the number of drilling oil rigs in the US exceeded the number of gas rigs. The growth in shale oil production in 2011-2012 was very impressive. Oil production at the Bakken formation in North Dakota increased more than 7.5 times and amounted to 589,000 BPD in 2012.

Eagle Ford play in Texas also became a site of explosive growth in liquid hydrocarbon production. In 2012 the aggregate volume of oil production from unconventional reservoirs in the US is estimated to have equaled 1.2M BPD. The transportation and refining infrastructure was unprepared for such production growth and that led to a decrease in US oil prices. The average spread between Brent and WTI oil amounted to \$17 BBL in 2011-2012, while several years before West Texas Intermediate (WTI) sold at a premium in comparison to Brent.

When forecasting shale oil production, it is necessary to take into account the potential for well drilling. The maximum number of wells will depend on the productive area of land suitable for drilling and on well spacing. According to the current estimates, the maximum number of wells that can be drilled at the Bakken formation in North Dakota is 33,000-39,000. As the density of well spacing grows, EUR or Estimated Ultimate Recovery decreases, and this should also be taken into account when forecasting future production.

Intensifying shale oil production by increasing rates of drilling will lead to fast reserve depletion. According to our estimates, daily oil production of 2M BBL at the Bakken formation is unlikely to be sustainable, because in this case the drilling potential will be depleted by 2022-2025. The most likely scenario of Bakken formation development is that it reaches a production level not higher than 1.5M BPD by 2020. (Sources: Mason J. (2012), Oil & Gas Journal, LUKOIL estimates)

North America becomes the Leader in Production Growth

For the next decade North America will remain the leader in terms of growth of production of liquid hydrocarbons. **By 2025 the aggregate volume of liquid hydrocarbon and biofuel production in the US and Canada will amount to 19M BPD**, thus significantly reducing the region's dependency on oil imports.

Just several years ago few believed that such growth would be possible in a region with consistently declining production at brownfields. But large-scale deployment of innovative technologies has forced many to review their evaluations.

The United States will continue to increase liquid hydrocarbon production with the help of shale oil, oil sands, the development of deep-water shelf and growth in NGL production

In Canada production growth will primarily depend on the oil sands. **By 2025 production of high-viscosity oil in Canada will reach 3.6M BPD, which is 1.7M BPD more than this year.** Production growth in Canada may be significantly constrained by logistics and environmental concerns. There is serious attention on the production of the Oil Sands in Utah. Growing demand and the natural decline of production from conventional oil fields will require the development of new reserves. (Sources: Vivakor, EIA, IHS CERA, LUKOIL estimates)

Recently there has been a steady trend towards an escalation in E&P (Exploration & Production) costs which can be explained by the depletion of conventional fields. As the increase in production will be from high cost sources such as deep-water fields, high-viscosity oil and oil from tight reservoirs, the production costs will continue to grow.

Taking into account the high cost and technological achievements in oil production, biofuels will not have serious stimulus for growth in production. The increase in oil production in North America will be gradual which will allow market players to adjust to changes. Medium-paced increase in oil production is expected in Iraq where the planned production probably won't be reached due to technological and infrastructural shortage.

OPEC will strive to bring prices above \$100/BBL to meet its budget commitments as the independent producers increase their production. Above all, the trend towards US dollar depreciation is one of the important factors that influence oil price increases. According to some estimates, it's unlikely that the price of oil will fall below \$100/BBL in the medium term. (Sources: Platts, LUKOIL estimates)

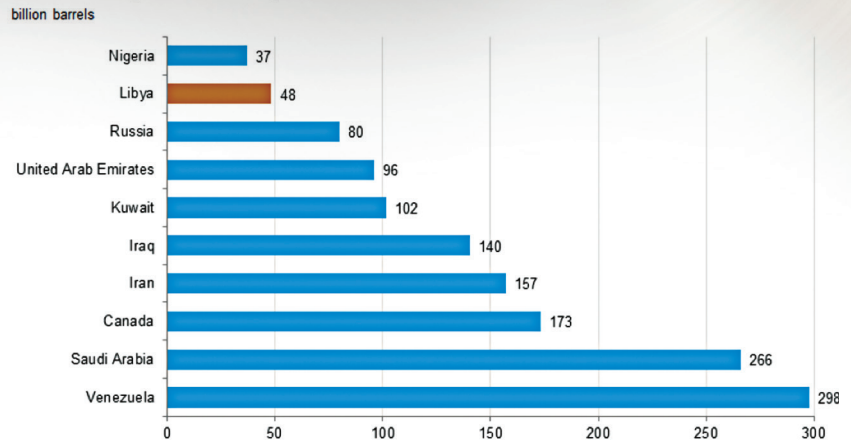
Global demand for diesel fuel will grow fastest among all the oil products. By 2025 the share of diesel fuel in the global oil product consumption will increase from the current 32% to 37%. This will require changes in the configuration of existing refineries to support low sulfur oil.

Demand for oil and other liquid fuels will rise by nearly 30 percent, and most of that increase will be linked to transportation. A growing share of the supplies used to meet liquid-fuel demand will come from deep-water, oil sands, tight oil, natural gas liquids and biofuels.

Summary

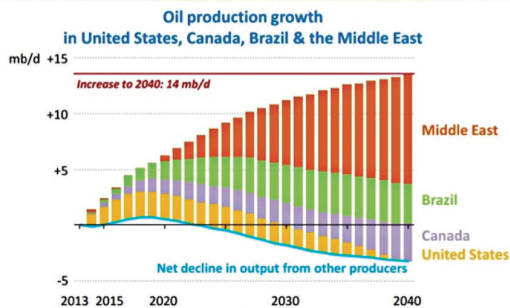
There is a very large, unknown amount of crude oil in the earth's crust. As geological knowledge and extraction technologies improve, more and more of this oil will become recoverable. Technological improvement also constantly reduces the real cost of extraction of crude oil of any particular quality, depth, and reservoir type. At the same time, as the best oil pools are depleted, there is a need to move from high quality, shallow, very permeable crude oil reservoirs to lower quality, deeper, and lower permeability reservoirs. This "depletion effect" tends to cause higher extraction costs. It then becomes a question of which effect predominates. At times, and for some resource types, technological improvements may overwhelm any resource depletion effect, with a net result of lower production costs over time.

The world's top 10 holders of proved crude oil reserves



Source: Oil & Gas Journal, as of January 1, 2014

Short-Term Recap OPEC's strategy of choking off North American shale appears to be going according to plan. Oil prices have stabilized somewhat around the \$50 per barrel mark, and over the past few weeks oil has shown less volatility than what we have grown used to in the preceding six or seven months.



The short-term picture of a well-supplied market should not obscure future risks as demand rises to 104 mb/d & reliance grows on Iraq & the rest of the Middle East

But another swoon could be just over the horizon. That is because oil producers are starting to run out of storage. As production has soared and global demand has failed to keep up, oil producers have been diverting oil into storage tanks at a remarkable rate since last summer.

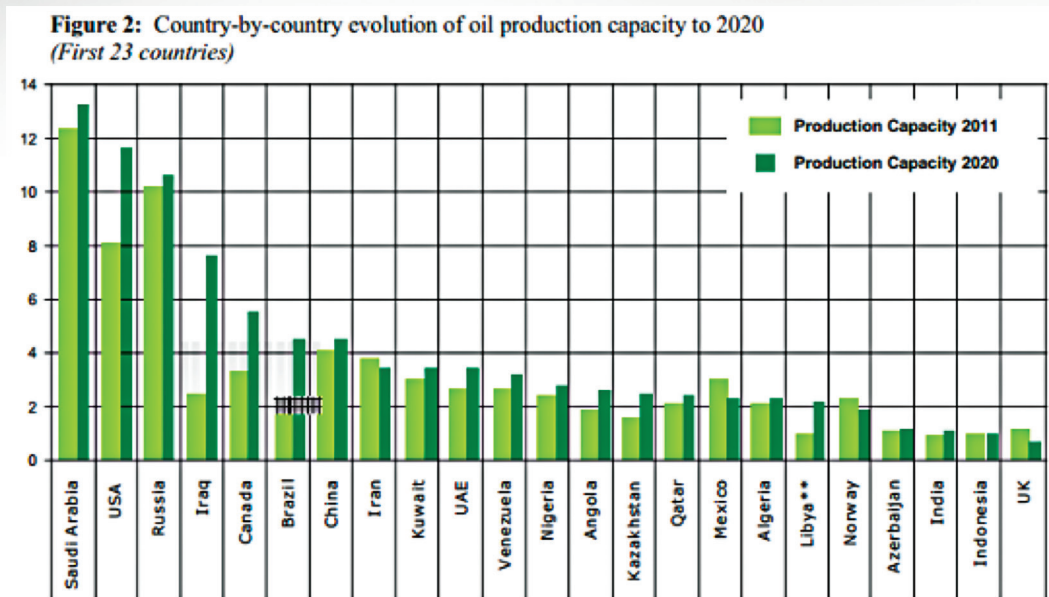
The latest EIA data shows that weekly inventories jumped by another 7.7 million barrels, with total inventories now having reached 425.6 million barrels. That is the highest level of oil sitting in storage in over 80 years, and more than 20% higher than the five-year average.

The data is also important because it highlights two things. First, oil production has not leveled off yet, despite several months of prices sitting below the breakeven mark for many producers. But also, the data indicates that U.S. producers may soon start to top off storage tanks. If production does not decline and oil storage capacity begins to run out, the glut of oil on the market could worsen pretty quickly, sending prices down once again.

Long-Term Influence

Population growth and the demand globally as a result will drive production and pricing. The United States will be a major exporter and Oil Sands will increase its role as a source with major supplementation from the United States oil sands areas in Utah.

The United States will increase its imports from its neighbor from the North (Canada) over time as the US also expands its own export capabilities.



Oil Sands Relevance

The Energy Resources Conservation Board (ERCB), forecasts oil sands production to increase from 1.9 million barrels per day in 2012 to 3.8 million barrels per day in 2022.

The Canadian Association of Petroleum Producers, in its crude oil forecast, predicts oil sands production will hit 5.2 million barrels per day by 2030, with Canadian crude oil production expected to be 6.7 million barrels per day by the same year (up from 3.2 million bpd in 2012).

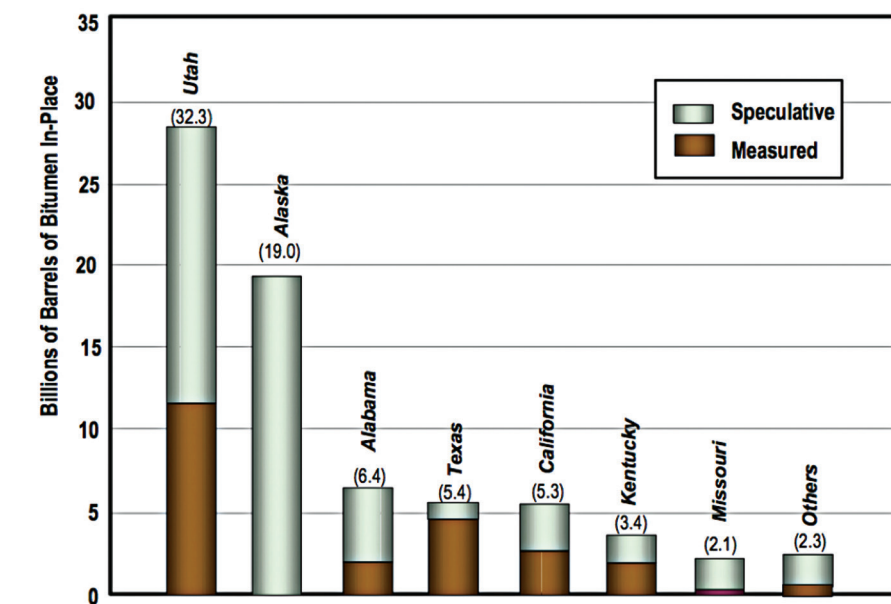
These production increases will likely be driven by new oil sands projects. Even a quick look at an Alberta government oil sands project map reveals an immense volume of activity in the future. There are 17 oil sands projects under construction, 10 more approved and an additional 28 more in the application stage.

By 2035, growth of tight oil (5.7M BPD), biofuels (1.9M BPD), and oil sands (3.3M BPD) alone will have accounted for 60% of global growth and all of the net increase in non-OPEC production. Tight oil will account for 7% of global supplies in 2035 while biofuels and oil sands obtain market shares of 3% and 5%, respectively. North America will dominate the expansion in unconventionals with 65% of global tight oil and with Canada responsible for most of the world's oil sands production. This is until Utah has been discovered as a significant resource for high quality oil. There is estimated to be between 20-32 Billion barrels of oil in Utah. There are several other States that have oil sands as well.

Vivakor envisions the usage of next-generation extraction technology for clean, environmentally friendly, low-cost processing and fulfillment of high quality oil from the Utah oil sands.

Vivakor is focused on Asphalt Ridge Deposits mainly due to its high level of richness (48% oil saturation) and very low sulfur content (<0.4% by weight).

The ability to sustain productivity levels and cash flows for extended periods of time unlike traditional oil plays is a game changer for companies that provide that type of capability. The market opportunity with early mover advantage creates a tremendous opportunity for those that get involved at all. Especially, for those that get engaged early. Our world's energy drink is not going anywhere any time soon!



Source: DOE/FE/NETL (1991).