# 1NC: Oil Demand DA

Oil prices are stable and high now – China, Europe and US growth can sustain demand

Crude oil futures , Weekly outlook: July 16 – 20, 2012 Forexpros, Lexis

Crude oil prices rose to a one-week high on Friday, after Chinese economic data calmed fears of a sharp slowdown in the world's second largest economy.Energy prices found further support from a broadly weaker U.S. and after the U.S. tightened sanctions on Iran. On the New York Mercantile Exchange, light sweet crude futures for delivery in August settled at USD87.05 a barrel by close of trade on Friday. Earlier in the day, prices hit USD87.58 a barrel, the highest since July 5. For the week, crude oil futures jumped 3.3%. Oil futures rallied on Friday after data showed that China's gross domestic product grew 7.6% in the second quarter, in line with expectations. That's down from growth of 8.1% in the preceding quarter. While the number was not as bad as feared, China's economy expanded at the slowest rate since the first quarter of 2009, fuelling hopes that policy makers in Beijing will soon begin a fresh round of stimulus to boost growth. Separate reports showed that industrial production advanced 9.5% in June, slightly below expectations for a 9.8% rise, while fixed asset investment in China rose 20.4% in June, beating expectations for a 20% increase. The Asian nation is the world's second largest oil consumer behind the U.S. and has been the engine of strengthening demand.Oil futures also got a boost from a weaker U.S. dollar, which pulled back from a two-year high against the euro. The single currency had dropped to its lowest level in two years against the greenback earlier in the session after ratings agency Moody's downgraded Italy's sovereign debt rating late Thursday, citing doubts over the government's ability to enact badly-needed reforms. But a well-received auction of three-year Italian government debt helped ease mounting concerns over the deteriorating health of the euro zone's third largest economy.Meanwhile, the dollar index, which tracks the performance of the greenback against a basket of six other major currencies, shed 0.4% to settle the week at 83.43. Oil prices typically strengthen when the U.S. currency weakens as the dollar-priced commodity becomes cheaper for holders of other currencies. Elsewhere, news that the Obama administration had expanded sanctions on Iran late Thursday lent further support. The U.S. Treasury and State Departments said it will target a number of banks and shipping companies it believes are being used to evade international sanctions on Iranian oil exports. A European Union embargo on purchases of Iranian oil came into full effect on July 1. Also in the U.S., data on Friday showed that consumer confidence unexpectedly dropped to the lowest level in seven months in July. The University of Michigan said its index of consumer sentiment fell to a seasonally adjusted 72.0, from 73.2 in June, confounding expectations for an increase to 73.4. A separate report showed that U.S. producer price inflation ticked up 0.1% in July, a pace that leaves the door open for more efforts from the Federal Reserve to stimulate the economy.Oil futures came under pressure earlier in the week after the minutes of the Federal Reserve's latest policy meeting disappointed expectations for further easing to boost growth in the U.S. Minutes of the Fed's June policy-setting meeting released Wednesday revealed that only a few board members thought that more asset purchases would be necessary. Several other officials indicated that more action could be warranted only if growth slows, risks intensified or if inflation seemed likely to fall "persistently" below their goal.

US consumption determines global demand

Crude oil futures , Weekly outlook: July 16 – 20, LENGTH: 825 words

The U.S. is the world's biggest oil-consuming country, responsible for almost 22% of global oil demand.

Link: Plan reduces demand

#### Oil price drop places the global markets at risk by curtailing new field development

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

When I completed the first version of this paper (March 2012), oil prices were even higher, then the forces I was describing started pushing them down. Yet at this writing, most people remain convinced that fundamentals are still in favor of rapid recovery of oil prices. My feeling is the opposite.

The timing of a hypothetical downturn or collapse is crucial to understanding its duration and its impact on the global oil market. Most of the projects I studied are still being developed, with higher initial costs to adopt new technologies, build infrastructure, and overcome the learning curve. The downturn or collapse of the oil market would have a significant impact, particularly if it occurred before 2015, when most of these projects have yet to advance However, the duration and effect of such a collapse would probably be of short duration.

A sudden dip below $50 would not necessarily suspend the development of many projects worldwide, but would only slow their execution. The exception would be those projects that hold the highest marginal costs, such as some Canadian tar sands projects, Venezuelan extra-heavy oils, Brazilian pre-salt formations, as well as those projects that can be stopped immediately, such as U.S. shale/tight oil ones those of OPEC producers, whose execution depends on the will of governments.

Such a response from oil companies and governments would soon curtail new production, leaving the world market vulnerable to sudden disruptions by geopolitical factors or major accidents once again. Furthermore, market instability would likely coincide with a rebound of oil demand, driven by lower prices. Market forces should then realign prices with the higher marginal production costs in less than two years. Conversely, if an oil price collapse were to occur after 2015, a prolonged phase of overproduction could take place, because production capacity would have already accumulated and production costs would have decreased as expected. This is what happened to shale gas production in the United States between 2011 and 2012. In this case, market recovery will depend critically on the strength of the world economy as well as geopolitical factors affecting the steady flow of oil on the global market.

Finally, the worst scenario would involve a collapse of China, which would make any current forecast about the future of the oil market (and the world economy) useless. Being China the current engine of the world economy and of oil price consumption growth, its collapse would leave the oil price fall without a floor.

The opposite may also be true, although it appears much less probable. A sudden, robust recovery of the world economy could hurt the equilibrium of oil demand and supply, particularly if accompanied by geopolitical tensions, pushing oil prices up once again. This scenario, however, would support an even stronger rush to develop new oil reserves and production.

I have no particular preference for any of these scenarios, or any combination of them, although I think that the probability of a significant fall of oil prices is higher than all other scenarios.

Whatever the belief, the most important messages of this paper are as follows:

• Oil is not in short supply. From a purely physical point of view, there are huge volumes of conventional and unconventional oils still to be developed, with no “peak-oil” in sight. The full deployment of the world’s oil potential depends only on price, technology, and political factors. More than 80 percent of the additional production under development globally appears to be profitable with a price of oil higher than $70 per barrel.

#### A shock will occur devastating global growth

Webster, 02/11 (Stephen C. Webster – contributor of The Raw News - coverage to the big stories of the day, policy, politics, legal and human rights stories, “Shell report predicts peak oil now or soon, ponders ‘Depression 2.0′”, <http://www.rawstory.com/rs/2011/02/15/shell-report-predicts-peak-oil-now-or-soon-ponders-depression-2-0/>)¶ The industrial doomsday scenario put forward by peak oil theorists isn’t just for far flung voices on the Internet anymore.¶ Peak oil is not a problem of Earth’s supplies: there’s plenty of oil in a variety of forms. The difficulty is in how much energy it takes to recover and process it. And if it hasn’t happened already, soon the demand for energy commodities will soar past existing production capacity and crash headlong into the brick wall of declining discoveries.¶ The economic effects of this could be devastating to the human populations within industrialized societies, to say the least.¶ That’s not just the line from Noam Chomsky, Michael Rupert and Dmitry Orlov: the second largest company in the world, Shell International, a major player in the energy commodities industries, is saying it too.¶ In a recent “Signals & Signposts” report by Shell, forecasting energy scenarios through 2050, the oil giant predicted a growing volatility in the price of oil and a coming period of “extraordinary opportunity or misery.”¶ As the demand for oil buts up against actual production and remaining reserves, the climbing price of oil will cause the gross domestic product of all nations to decline, they predict.¶ In another section, Shell calls these economic effects “Depression 2.0.” Though that scenario is introduced as “unlikely,” the rest of the report does not paint a rosy outlook.¶ Climate and environment¶ Shell predicts that as the energy industry struggles to meet global demand, “environmental tension will swell and spread.”¶ They add: “Political, industrial and individual choices will determine whether these tensions can be resolved and whether the solutions will be benign or harmful to us.”¶ Within what they called a “zone of uncertainty,” energy entrepreneurs will have “extraordinary opportunity” for growth if the right assemblage of technology is made available. However, Shell adds that competition and “natural innovation” in energy efficiency would only account for a moderation in demand of about 20 percent by 2050.¶ Meanwhile, between 2000 and 2050, demand for easily accessible energy will triple, they predict.¶ China, Shell adds, is preparing to institute its own cap-and-trade system for regulating carbon emissions. Businesses around the world, they noted, have already largely started to accept that climate regulations will soon become a reality for global trade and have begun to budget accordingly.¶ But even the most rapid improvements in renewable technologies, like electric cars or microorganisms that convert captured carbon into liquid fuel, won’t help much in the near term.¶ “New energy technologies must be demonstrated at commercial scale and require thirty years of sustained double-digit growth to build industrial capacity and grow sufficiently to feature at even 1-2% of the energy system,” they wrote.¶ The bumpy peak¶ Shell predicts in clear terms what journalist Michael Rupert said in his recent film “Collapse“: more shocks to the industry loom ahead, which will lead to increased price volatility, producing rapid inflation and deflation on the consumer level.¶ And if that phenomena hasn’t already begun, they add, it will be in full-boar by the end of this decade.¶ Interestingly enough, Shell also predicts that “[the] longer the delay in climate policy action, the more likely shocks become.”¶ One such example would be the potential for peak output in Saudi Arabia. If it were a reality and word got out that their fields would be in permanent decline, it could produce extreme price variations and social unrest amid worsening economic conditions. A series of US diplomatic cables from 2007-2009, published by secrets outlet WikiLeaks, revealed that the former head geologist in charge of exploration for the Saudi oil firm Aramco, who retired in 2004, has expressed very serious concerns that this was happening.¶ This admission would seem to run counter to Shell’s political strategy, which has been to help fund the obfuscation of efforts toward climate policies. They were particularly generous with former Senator Ted Stevens (R-Alaska), who was a loyal supporter of their interests.¶ According to the nonprofit activist group Oil Change International, as of August 2010 Sen. John Cornyn (R-TX) topped the list of US politicians who’ve benefitted handsomely from the generosity of the oil and gas industry. He’s accepted over $1.8 million from them.¶ Other names atop the list, they add, include “Representative Joe Barton (R-TX) at $1,707,173; Senator Mitch McConnell (R-KY) at $1,147,558; Senator Jim Inhofe (R-OK) at $1,123,006; Representative Rick Boucher (D-VA) at $1,094,811; and Senator Kay Bailey Hutchison (R-TX) at $1,004,514.”

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#### Price drops from plan derails transition to renewables - sustained high prices key

Jerry Taylor and Peter Van Doren, “editor of the quarterly journal Regulation and an expert in the regulation of housing, land, energy, the environment, transportation, and labor, 2006 An Argument against Oil Price Minimums” http://www.cato.org/publications/commentary/argument-against-oil-price-minimums

Price uncertainty also makes energy conservation investments problematic. Consumers are leery of investing in energy efficiency or drastically altering their lifestyle (say, by moving from distant suburbs in order to cut commuting costs) if they suspect that high prices will be here today but gone tomorrow. Moreover, if oil demand craters for whatever reason, prices would drop and conservation would disappear as quickly as it did in the 1990s after the 1986 price collapse. The boom and bust cycle would then resume.

All of this explains why the economy responds slowly to oil price increases and why high prices take so long to address via supply and demand response alone. A price floor would theoretically reduce price volatility while ensuring a much quicker and more efficient response to market disruptions.

#### High prices are key to renewable shift and emissions regulations

ROBERTS (expert on the interplay of economics, technology, and the environment,) 2004

[Paul, Graudate of Univ Washington, Written many articles: NYT, New Republic, Harper’s on environmental issues, finalist for national magazine award 99, The End of Oil: on the edge of a perilous new world, pg 312-3 pgf //delo-uwyo]

Now let's consider a more optimistic scenario. Let's look at a future narra- tive in which the United States and the rest of the energy economy don't react defensively to a crisis, retreating deeper into the hydrocarbon economy, but rather move in an entirely different direction. Let's start by supposing that our oil disruption takes place under different circumstances. Suppose that our Saudi succession struggle occurs not today, but a few years from now - say, 2008 - and is slightly less severe, provoking a loss of just five million barrels of production. More important, suppose that, in the meantime, American confidence in energy has been badly shaken by a series of smaller, almost preparatory energy crises, and that consumers and politicians alike no longer find comfort in the energy status quo. Suppose that things have gone badly in Iraq, and that Americans are in no mood for any more oil interventions. Suppose that a progression of blackouts and natural gas price spikes have persuaded consumers that traditional U.S. energy policy has failed and that energy is too critical to be left entirely to the "free market." Suppose that, despite U.S. efforts to undercut OPEC, the cartel has kept oil prices above thirty dollars a barrel, and that these higher prices have eroded the economy, while spurring interest in efficiency and non-oil alternatives. Suppose that "energy security" and "volatility" have become nightly news topics, and that stories about civil strife in places like Nigeria and Bolivia, or the pipeline "wars" between China and Japan, are routine fare on front pages and Sunday talk shows. Suppose, further, that the data on climate have become irrefutable. Imagine that the effects of global warming that we've already begun to see today - the heavier rainstorms and killer flash floods, the more intense summer droughts and forest fires, the steady declines in the mountain snow pack that most of the western United States depends on for water start happening so frequently and with such great intensity and damage that we begin to register an atmosphere of crisis. Suppose that a few bi~ states grow even more frustrated than they are now over federal energy po! icy; to the point where they begin acting independently: upping emissions requirements for cars and trucks (as has already happened in California and New York), phasing in a carbon tax or cap-and-trade system (as is under consideration by northeastern states), or launching programs to replace the unreliable regional grids with new "distributed generation" microgrids. "You could easily picture a situation where states start doing things on their own' one climate policy expert at a U.S. environmental group told me, "and pretty soon, you have a patchwork of different and sometimes conflicting state regulations, which annoys the hell out of industry because it's having to adapt to all these different laws, and pretty soon industry is actually asking Congress to adopt some kind of uniform carbon tax." In such a political environment, analysts suggest, the United States might respond quite differently to a disruption or some other energy "event" than it would today. Rather than struggling to defend the energy status quo - say, by invading some oil-rich region - U.S. lawmakers might be willing to risk a more progressive and interventionist energy poiicy - one intended to balance the necessary focus on increased supply with a new emphasis on energy efficiency and low- and no-carbon fuels and energy technologies. Such a sweeping policy, were it to be enacted, would probably be built around a core of long-term goals - among them, staying within a hundred-year carbon budget, and moving toward a hydrogen economy. Significantly, this new policy would emphasize the concept of a "bridge" economy, a transitional phase designed to arrest the worst of the current energy trends, while giving us more flexibility in eventually creating a new energy system. To encourage this transitional stage, the policy would focus on three neal-term objectives designed to jump-start the process: first, an immediate move to expand natural gas imports; second, the rapid deployment of a carbon tax; and third, dramatically improved automotive fuel efficiency.

# Demand DA Ext

## Price Uniqueness

#### US demand increase raising prices now

Shanghai Daily (Benchmark), July 20, 2012 Friday, “Oil price climbs above US$90 on stronger US demand” Lexis

THE price of oil climbed above US$90 per barrel for the first time since. May after the government said US oil demand is on the rise. The Energy Information Administration reported yesterday that average oil demand increased last week in the US for the third week in a row. Oil demand had been down most of the year, when compared with 2011, as manufacturing activity slowed and drivers cut back on travel. Benchmark US crude rose 37 cents to US$89.59 per barrel in New York. It hit US$90.04 per barrel earlier in the day, the highest price since May 30. Meanwhile, retail gasoline prices rose 2 cents to a national average of US$3.426 per gallon (3.7 liters).

#### At worse, prices will bottom out at around 75 and rebound to $100 by years end

CNBC June 22, 2012 “Why Oil Prices Will Keep Falling: Record Pumping,” http://www.cnbc.com/id/47919732

"I think the slide is going to begin to tail a little. I wouldn't be surprised to see some profit-taking rebounds. The direction for the market tends to be lower, and until we get some better economic conditions, the market is hunting for a bottom," said Gene McGillian, Tradition Energy. McGillian said the market is heading to the lows of last year, around $75 per barrel for WTI. Brent, already at an 18-month low, could move as low as $80 per barrel. "I think a lot of the economic worries have been priced in for the moment and the market's catching its collective breath right now," he said. Citigroup’s Ed Morse, who heads commodities research, doesn’t expect oil to keep falling for long, but he doesn’t expect it to get back to its year highs soon either. “We think there’s no reason for a sustained price recovery for Brent above $100 or WTI above $85 through the second half of the year,” he said.

#### Goldilocks now – Texas proves

DAVE FEHLING, state impact staff, MAY 14, 2012 “As Prices Fall, Finding a Sweet Spot for Oil in Texas”

<http://stateimpact.npr.org/texas/2012/05/14/goldilocks-and-the-price-of-oil-in-texas/>

THE ‘GOLDILOCKS’ PRICE

Her customers aren’t the only ones in Texas who are happy with what oil is now selling for. “Right now, we seem to be in a sweet spot,” said James LeBas who advises the Texas Oil & Gas Association. LeBas used to work for the State of Texas, estimating how much revenue would come from taxes, including those from oil and gas drilling. “Employment is rising, production is rising, drilling is rising. State and local governments are taking in a lot of additional tax revenues that were unanticipated. And as long as we stay in this band where we are today, it seems to be healthy for everybody,” said LeBas. Some call it the Goldilock’s price for oil: not too low that it discourages production, not too high that it hurts demand. FOR TEXAS, MORE TAX REVENUE A few decades ago, the state got roughly a quarter of all tax revenue from oil and gas production. Today, it gets only about half that, said Dale Craymer, another former revenue estimator for Texas and now president of the Texas Taxpayers and Research Association. “But still, no question, it’s a critically important source of revenue to the state,” Craymer told StateImpact Texas. “Texas state finances tend to rise and fall with the health of the oil and gas industry,” said Craymer. And right now, those finances are beating expectations. “(The state’s) official budget projections are based on a little less than $80 a barrel. And we’re running close to $100 a barrel now so we are running well in excess of our official forecast,” said Craymer. HOW LOW IS TOO LOW? That relatively high price has helped support the current drilling boom, much of which relies on hydraulic fracturing or “fracking,” as it’s called. (The highest price for West Texas Intermediate crude was $145 in July 2008, but by September of that year it dropped back below $100.) How far would prices have to fall to slow it down? James LeBas, the other former state revenue estimator, says it’s not that much further: “If (energy companies) believe that we’re going to be in the $80 range, then they will probably continue to explore and develop at the current level.” But if the price falls below that magic $80 sweet spot? “Each company will make its own decision but the lower the price goes, more of them will hit their magic number where they will decide to curtail exploration and production,” said LeBas. Jeff Dietert at Simmons & Company Many of the companies operating in the hottest spots for drilling in Texas—the Permian Basin in West Texas, the Barnett Shale in North Texas, and the Eagle Ford shale in South Texas—might be able to do business as usual even if prices dropped into the $70 range, according to Jeff Dietert, co-head of research at Simmons & Company, a Houston-based investment bank for the energy industry. “The cost of a well is going down, the number of days to drill a well is declining as operators get more efficient with these new technologies,” Dietert told StateImpact Texas. Oil prices are affected by the overall world economy, by production decisions made by cartels and by conflicts in foreign, oil-producing countries. In recent days, the trend has been downward. “What’s happened is that we’re over-supplying the market, inventories are building. So that’s recently put some pressure on oil prices and we’re seeing them come down,” said Dietert. Whether prices will continue to fall is anyone’s guess. And no one knows how long the Goldilocks price that has been so good for Texas will last.

#### Saudi Arabia may cut production to keep oil prices high

Brad Plumer, 6/5/2012, “For first time in years, the world is producing more oil than it needs” Washington Post, http://www.washingtonpost.com/blogs/ezra-klein/post/oil-prices-are-collapsing--is-that-a-good-thing/2012/06/05/gJQAYm3zFV\_blog.html

One caveat, though: It’s still entirely possible that oil prices won’t keep falling. Stuart Staniford notes that Saudi Arabia could decide to cut production in the near future. Remember, most OPEC countries need relatively high oil prices to pay for the domestic spending programs they’ve recently put in place to placate protestors. And there’s always the possibility of a surprise plot twist. Negotiations with Iran could break down. Or Europe could suddenly fix its problems

But risks return next week when there's a new batch of U.S. data, and the EU leaders meet at the end of the week on the sovereign debt crisis.

### A2: Prices Going Down

#### The market knew consumption cuts would happen, prices have bottomed out and will go higher by year end

Trefis July 12, 2012, “My 2012 Midyear Outlook for Oil Demand”

Submitted by Investing Daily as part of our contributors program.

West Texas Intermediate (WTI) crude oil prices tumbled 30 percent from their high of $110 per barrel in late February to less than $80 per barrel toward the end of June. Meanwhile, Brent crude oil declined from a 2012 high of more than $128 per barrel to a recent low of less than $90 per barrel.

The drop in oil prices far exceeds the decline in equities: At its June low, the S&P 500 had given up almost 12 percent from its 2012 high. In recent weeks, I ve received a number of emails asking about my outlook for oil prices and what the decline in energy prices means for oil investing. First, lets look at what s driving the recent weakness in oil prices. Investors have grown increasingly concerned that the slowing global economy will erode demand for crude oil. Although EU oil consumption will weaken and China s economic growth has slowed relative to prior years, the recent drop in oil prices already more than reflects these headwinds. Moreover, current prices don t reflect the potential for emerging-market oil consumption to pick up in the second half of the year. Investors also shouldn’t discount the stimulative effect that lower oil prices will have on the US economy and demand. a Source: Energy Information Administration In the first 25 weeks of 2012, US crude and refined products demand has declined by 3.18 percent from year-ago levels. Some of this weakness reflects reduced demand for heating oil during the unseasonably warm 2011-2012 winter. However, other factors are at work: Through the end of April, US gasoline consumption had slipped 1.4 percent year over year, while jet fuel demand was down 0.8 percent. The four-week moving average of US oil and refined-products demand shows a clear break in the steady uptrend in US oil consumption after the Great Recession. As the economy recovered and the credit crisis eased, US oil demand bounced off its 2009 and early 2010 lows but never regained its pre-2007 levels. In fact, the nation consumed less oil in 2011 than a decade earlier. Although the US remains the world s largest oil consumer in absolute terms, the decline in domestic consumption is neither an unforeseen development nor a major driver of oil prices. The International Energy Agency s February Oil Market Report forecast that North American oil demand would decline by 109,000 barrels per day in 2012; the agency subsequently revised this estimate to 194,000 barrels of oil per day still an insignificant volume in a global market that amounts to 90 million barrels of oil per day.

### A2: Libya

#### Multiple political issues check Libya from returning to full production

Business Insider ’11 (“Libya’s Oil Production could Triple in a Year”, Oct 20, 2011, http://articles.businessinsider.com/2011-10-20/markets/30301294\_1\_libyan-crude-oil-industry-libyan-oil)

NEW YORK (AP) — It will still be several months before Libya can export as much oil as it did before it descended into civil war earlier this year. But the killing of Moammar Gadhafi reduces the chance that violence will get in the way as Libya cranks up production again. And **as Libyan crude returns, it could lower the price of oil on the international markets and gasoline at American pumps.¶ The type of crude produced by Libya**, known as light, sweet crude, **is rare.** It is especially valuable because it is easier for refineries to convert into diesel and gasoline. Many refineries can't switch easily to processing other varieties of crude.¶ ¶ **Before the civil war, Libya produced only 2 percent of the world's oil. But even small interruptions in oil production can have a big effect on the price because the balance between supply and demand is delicate.¶ When fears arise that supplies might fall short, traders get nervous, and prices can go up fast.**¶ **The price of oil jumped 35 percent between Feb. 15, when protests started in Benghazi, and April 29, when oil hit almost $114 per barrel, the highest since 2008. Gasoline prices in the U.S. rose from $3.12 before the fighting to a three-year high of $3.98 on May 5.** **High prices, plus** **the prospect that Libyan crude would disappear from the market for a long time, led a group of oil-importing nations to announce the release of 60 million barrels of oil from emergency stocks. That included 30 million from the United States.¶ The price of oil came down because traders figured Libyan oil would return after Gadhafi was ultimately overthrown — but also because of concerns that a worldwide economic slowdown would reduce demand for oil.**¶ By Wednesday, oil had returned to its price before Libya's uprising began. It fell 81 cents Thursday to $85.30 a barrel in New York trading. The average price of a gallon of gas in the U.S. was unchanged at $3.47.¶ The oil market's reaction to Gadhafi's death was muted because efforts to revive the Libyan oil industry have been under way for months under the Libyan transitional government.¶ "It was a foregone conclusion that Gadhafi was finished," said Daniel Yergin, chairman of IHS CERA, an energy research firm, and author of a Pulitzer Prize-winning history of the oil industry.¶ Before the war, Libya, which sits on the biggest oil reserves in Africa, produced about 1.6 million barrels of oil per day. Production collapsed during the war. Libya now produces about 390,000 barrels a day, a Libyan official said earlier this month.¶ Analysts predict the country can produce 600,000 barrels per day by the end of the year and 1.6 million by the second half of next year. By then, oil, depending on where it is traded, could fall $10 to $25 per barrel, says Michael Lynch, president of Strategic Energy & Economic Research.¶ But **getting back to regular oil production could prove difficult for Libya. Its government is still in its infancy. It has no parliament, no constitution and few remaining national institutions.¶ And infighting could spark a second uprising similar to the insurgency in Iraq**, Barclays Capital analyst Helima Croft says.¶ "Certainly, having Gadhafi no longer on the scene takes away one source of instability. We just think **the bigger problem might be the 'game of thrones' between various factions within the rebel ranks**," Croft said.¶ **One major issue is figuring out how to divide oil revenue among more than 100 tribes in the country**, says Frank Verrastro, director of the energy and national security program at the Center for Strategic and International Studies.¶

### Futures: high

#### Middle east tension will keep prices above $90

India First Edition July 19, 2012 Thursday

HYDERABAD, July 19 -- World oil prices hit seven-week high as traders fretted over the impact of simmering geopolitical tensions in the crude oil-rich Middle East. Brent North Sea oil for delivery in September jumped to $107.48 per barrel and New York's light sweet crude for August struck $91.86, matching highs last seen in late May. "Prices have climbed primarily on the back of geopolitical risks," said Commerzbank analyst Carsten Fritsch. "The conflict in Syria, which has already been under way for 16 months, appears to be escalating. "The Iran conflict is also coming into increasingly sharp focus, Israel having blamed Iran for the attack on Israeli tourists in Bulgaria." In late afternoon deals, Brent stood at $107.16, up $2 from Wednesday's closing level, while New York was $1.91 higher at $91.78. Israel accused Iran and Lebanese group Hezbollah of carrying out a deadly attack against Israelis in Bulgaria, setting the stage for new tensions in West Asia. The Israeli Prime Minister, Mr Benjamin Netanyahu, said "all the signs point to Iran," linking Wednesday's blast to a string of attempts to attack Israelis around the world. "Israel will respond forcefully to Iranian terror." Iran responded by saying it strongly condemns "all terrorist acts."

## Development Good

### 2NC

#### $80 is the bottom line for oil prices, any lower curtails production investment

DAVE FEHLING, state impact staff, MAY 14, 2012 “As Prices Fall, Finding a Sweet Spot for Oil in Texas”

<http://stateimpact.npr.org/texas/2012/05/14/goldilocks-and-the-price-of-oil-in-texas/>

HOW LOW IS TOO LOW? That relatively high price has helped support the current drilling boom, much of which relies on hydraulic fracturing or “fracking,” as it’s called. (The highest price for West Texas Intermediate crude was $145 in July 2008, but by September of that year it dropped back below $100.) How far would prices have to fall to slow it down? James LeBas, the other former state revenue estimator, says it’s not that much further: “If (energy companies) believe that we’re going to be in the $80 range, then they will probably continue to explore and develop at the current level.” But if the price falls below that magic $80 sweet spot? “Each company will make its own decision but the lower the price goes, more of them will hit their magic number where they will decide to curtail exploration and production,” said LeBas. Jeff Dietert at Simmons & Company

#### **$70 per barrel is key to a massive increase in capacity**

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

Contrary to what most people believe, oil supply capacity is growing worldwide at such an unprecedented level that it might outpace consumption. This could lead to a glut of overproduction and a steep dip in oil prices. Based on original, bottom-up, field-by-field analysis of most oil exploration and development projects in the world, this paper suggests that an unrestricted, additional production (the level of production targeted by each single project, according to its schedule, unadjusted for risk) of more than 49 million barrels per day of oil (crude oil and natural gas liquids, or NGLs) is targeted for 2020, the equivalent of more than half the current world production capacity of 93 mbd. After adjusting this substantial figure considering the risk factors affecting the actual accomplishment of the projects on a country-by-country basis, the additional production that could come by 2020 is about 29 mbd. Factoring in depletion rates of currently producing oilfields and their “reserve growth” (the estimated increases in crude oil, natural gas, and natural gas liquids that could be added to existing reserves through extension, revision, improved recovery efficiency, and the discovery of new pools or reservoirs), the net additional production capacity by 2020 could be 17.6 mbd, yielding a world oil production capacity of 110.6 mbd by that date – as shown in Figure 1. This would represent the most significant increase in any decade since the 1980s. The economic prerequisite for this new production to develop is a long-term price of oil of $70 per barrel. Indeed, at current costs, less than 20 percent of the new production does not seem profitable at prices lower than this level. Only four of the current big oil suppliers (more than 1 mbd of production capacity) face a net reduction of their production capacity by 2020: Norway, the United Kingdom, Mexico, and Iran. For the latter two, the loss of production is primarily due to political factors. All other producers are capable of increasing or preserving their production capacity. In fact, by balancing depletion rates and reserve growth on a country-by-country basis, decline profiles of already producing oilfields appear less pronounced than assessed by most experts, being no higher than 2 to 3 percent on a yearly basis. This oil revival is spurred by an unparalleled investment cycle that started in 2003 and has reached its climax from 2010 on, with three-year investments in oil and gas exploration and production of more than $1.5 trillion (2012 data are estimates). As shown in Figure 2, in the aggregate, production capacity growth will occur almost everywhere, bringing about also a “de-conventionalization” of oil supplies. During the next decades, this will produce an expanding amount of what we define today as “unconventional oils”\* After considering risk-factors, depletion pattern and reserve growth, four countries show the highest potential in terms of effective production capacity growth: they are, in order, Iraq, the U.S., Canada, and Brazil. This is a novelty, because three out of four of these countries are part of the western hemisphere, and one only – Iraq – belongs to the traditional center of gravity of the oil world, the Persian Gulf. – such as U.S. shale/tight oils, Canadian tar sands, Venezuela’s extra-heavy oils, and Brazil’s pre-salt oils. The most surprising factor of the global picture, however, is the explosion of the U.S. oil output. Thanks to the technological revolution brought about by the combined use of horizontal drilling and hydraulic fracturing, the U.S. is now exploiting its huge and virtually untouched shale and tight oil fields, whose production – although still in its infancy – is already skyrocketing in North Dakota and Texas. The U.S. shale/tight oil could be a paradigm-shifter for the oil world, because it could alter its features by allowing not only for the development of the world’s still virgin shale/tight oil formations, but also for recovering more oil from conventional, established oilfields – whose average recovery rate is currently no higher than 35 percent. The natural endowment of the initial American shale play, Bakken/Three Forks (a tight oil formation) in North Dakota and Montana, could become a big Persian Gulf producing country within the United States. But the country has more than twenty big shale oil formations, especially the Eagle Ford Shale, where the recent boom is revealing a hydrocarbon endowment comparable to that of the Bakken Shale. Most of U.S. shale and tight oil are profitable at a price of oil (WTI) ranging from $50 to $65 per barrel, thus making them sufficiently resilient to a significant downturn of oil prices. The combined additional, unrestricted liquid production from the aggregate shale/tight oil formations examined in this paper could reach 6.6 mbd by 2020, in addition to another 1 mbd of new conventional production. However, there remain obstacles that could significantly reduce the U.S. shale output: among them, the inadequate U.S. oil transportation system, the country’s refining structure, the amount of associated natural gas produced with shale oil, and environmental doubts about hydraulic fracturing, one of the key technologies for extracting oil

### Price: Development I/L

#### High prices will result a stable return to “cheap” oil, demand must continue to increase

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

A hypothetical oil price downturn would have a significant impact, albeit short-lived, if it occurred before most of the projects considered in this paper had advanced significantly - that is, before 2015. Conversely, if an oil price collapse were to occur after 2015, a prolonged phase of overproduction could take place, because production capacity would have already expanded and production costs would have decreased as expected, unless oil demand were to grow at a sustained yearly rate of at least 1.6 percent for the entire decade. The opposite could also happen. A sudden rebound of the world economy could strain the equilibrium of oil demand and supply, particularly if accompanied by geopolitical tensions. This scenario, however, would support an even stronger rush to develop new oil reserves and production. Whatever the future, the analysis reported in this paper reveals some important points: • Oil is not in short supply. From a purely physical point of view, there are huge volumes of conventional and unconventional oils still to be developed, with no “peak-oil” in sight. The real problems concerning future oil production are above the surface, not beneath it, and relate to political decisions and geopolitical instability. • Other things equal, any significant setback to additional production in Iraq, the United States, and Canada would have a strong impact on the global oil market, considering the contribution of these countries to the future growth of oil supply. • The shale/tight oil boom in the United States is not a temporary bubble, but the most important revolution in the oil sector in decades. It will probably trigger worldwide emulation over the next decades that might bear surprising results - given the fact that most shale/tight oil resources in the world are still unknown and untapped. What’s more, the application of shale extraction key-technologies (horizontal drilling and hydraulic fracturing) to conventional oilfield could dramatically increase world’s oil production. • In the aggregate, conventional oil production is also growing throughout the world at an unexpected rate, although some areas of the world (Canada, the United States, the North Sea) are witnessing an apparently irreversible decline of the conventional production. • The age of “cheap oil”‡ • The oil market will remain highly volatile until 2015 and prone to extreme movements in opposite directions, thus representing a major challenge for investors, in spite of its short and long term opportunities. After 2015, however, most of the projects considered in this paper will advance significantly and contribute to a strong build-up of the world’s production capacity. This could provoke a major phenomenon of overproduction and lead to a significant, stable dip of oil prices, unless oil demand were to grow at a sustained yearly rate of at least 1.6 percent for the entire decade. is probably behind us, but it is still uncertain what the future level of oil prices might be. Technology may turn today’s expensive oil into tomorrow’s cheap oil. ‡ The expression “cheap oil” has not exact boundaries. Generally, in the oil literature it is used in reference to the cheap oil prices prevailing over the second half of the 20th Century, when oil price in real terms (2000 U.S. dollars) ranged between $20 to $30 per barrel, with some noteworthy exception (such as during the period of the oil shocks in the 1970s and early 1980s, when the price of oil largely exceed $100 per barrel in real terms). Oil: The Next Revolution 7 • A revolution in environmental and emission-curbing technologies is required to sustain the development of most unconventional oils – along with strong enforcement of existing rules. Without such a revolution, a continuous clash between the industry and environmental groups will force the governments to delay or constrain the development of new projects. • Some of the major geopolitical consequences of the oil revolution include Asia becoming the reference market for the bulk of the Middle East oil, and China becoming a new protagonist in the political affairs of the whole region. • At the same time, the Western Hemisphere could return to a pre-World War II status of theoretical oil self-sufficiency, and the United States could dramatically reduce its oil import needs. • However, quasi oil self-sufficiency will neither insulate the United States from the rest of the global oil market (and world oil prices), nor diminish the critical importance of the Middle East to its foreign policy. At the same time, countries such as Canada, Venezuela and Brazil may decide to export their oil and gas production to markets other than the U.S. for purely commercial reasons, making the notion of Western Hemisphere self-sufficiency irrelevant. • It’s also true, however, that over the next decades, the growing role of unconventional oils will make the Western hemisphere the new center of gravity of oil exploration and production.

#### Speculators will immediately adjust to the perceived future effect of the plan.

Lott 3/13/2012 (John R., Jr. – Ph.D. in economics from UCLA, “Yes, government policies could help bring down the price of gas – today,” http://www.foxnews.com/opinion/2012/03/13/yes-government-policies-could-help-bring-down-price-gas-today/)

Democrats and even some conservatives claim that there is nothing that can be done immediately to reduce oil prices. After all, they argue, even if the go ahead were given today to drill for more oil, it would take years before we would actually see it. But lower future prices do lower current prices. Just as speculators save oil for future consumption if they think that prices will rise, lower future prices mean that they won't keep their inventories, and selling them off now will lower today's prices. Thus, President Obama's bans on drilling raise prices in the future, but also raise them now. The US is only a relatively small part of a worldwide market for oil, but relatively inelastic demand for oil even small changes in quantity can produce significant changes in prices. Despite all the subsidies for so-called “green energy,” what is being produced there doesn’t come close to offsetting the energy lost from this oil production.

#### New tek and field development is key to shift oil dependency away from the middle east

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

My field-by-field analysis suggests that worldwide, an additional unrestricted supply of slightly less than 50 mbd is under development or will be developed by 2020. Eleven countries show a potential outflow of new production of about 40.5 mbd, or about 80 percent of the total. After adjusting the world’s additional unrestricted production for taking into account risk-factors, the additional adjusted supply comes to 28.6 mbd , or 22.5 mbd for the first eleven countries – as shown in Figure 3 (more extensive data are shown in Table 3, Section 4). These numbers carry at least two important messages: • They represent the largest potential addition to the world’s oil supply capacity since the 1980s. • They point to a tectonic shift in the oil geography and geopolitics, by making the Western Hemisphere the fastest growing oil-producing region in the world, with the United States and Canada combined outpacing any other country. Countries excluded from Figure 3 might also bring significant new production of crude oil and NGLs. In particular, Algeria, Libya, Russia, Qatar, China, and India could deliver between 500,000 bd and 1 mbd of unrestricted new supply, (see Table 3, Section 4). Libya could even exceed 1 mbd on additional production, but the bulk of this is the consequence of recovering supply capacity that was lost during the civil war (hence, why Libya was excluded from Table 1). The remaining new production will develop from a mosaic of countries, while other minor producers (less than 200,000 bd of current production capacity) will face an overall decline in their production. Several countries where oil production is growing belong to OPEC, which are subject to comply with the organization’s allocation of pro-rata production quota. From time to time, this could affect their actual production (if they effectively comply with their production quotas), but not the ongoing growth of the production capacity. As I will explain in the last Section of this paper, only a significant collapse of oil prices could stop part of the ongoing investments aimed at developing that capacity.

### Development Investment: High

#### Oil investment high now

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

From 2003 on, oil exploration & production (E&P) worldwide entered a new, impressive investment cycle, encouraged by ever increasing crude oil prices, private companies’ desperate need to replace their reserves, the re-emergence of Iraq as a major oil player, and the inaccurate but still widespread perception that oil is bound to become a rare commodity. That cycle reached the status of a boom between in 2010 and 2011, when the oil industry invested more than $1 trillion worldwide to explore and develop new resources. According to Barclays’ Upstream Spending Review, 2012 might represent a new all-time record since the 1970s in terms of E&P investments, with a conservative estimate of slightly less than $ 600 billion.13

### Price/Investment Key: Reserve Expansion

#### Investment and oil price are key to increase global oil recovery rates

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

Today, the worldwide average recovery rate for oil is less than 35 percent of the estimated OOP, which means that less than 35 barrels out of 100 may be harvested. As often occurs with statistics, these figures hide huge disparities. In most major producing countries, particularly those where international oil companies (IOC’s) are not permitted to produce oil, the oil recovery rate is well below 25 percent, because of old technologies, reservoir mismanagement, limited investment, and many other factors. The situation has improved in the last decade, but not significantly. For example, the current leading oil producers report about a 20 percent recovery rate.3 This group includes the Russian Federation, Iran, Venezuela, Kuwait, and others. Some of these countries have even lower recovery rates, in spite of their long and important history as producers. Consider Iraq. Despite its long history as a producer, the country is largely untapped as far as oil development is concerned, according to the assessment made by the IOC’s awarded re-development contracts between 2009 and 2011 (see Section 3). Since production began at the dawn of the twentieth century, only 2,300 wells (both for exploration and production) have been drilled there, compared with about one million in Texas.7 A large part of the country, the western desert area, is still mainly unexplored. Iraq has never implemented advanced technologies, like 3- D seismic exploration techniques, or deep and horizontal drilling and hydraulic fracturing, to find or tap new wells. Of more than eighty oil fields discovered in the country, only about twenty-one have been partially developed.8 Given this state of underdevelopment, it is realistic to assume that Iraq has far larger oil reserves than documented so far, probably about 200 billion barrels more. These numbers make Iraq, together with a few others, the fulcrum of any future equilibrium in the global oil market.9 To date, the Iraqi recovery rate has been much less than 20 percent, and probably lower than 15 percent of its OOP. Even the most oil-rich country in the world, Saudi Arabia, still has much potential to exploit. Despite a flurry of recent doubts about the actual size of its reserves (a renewed attempt to discredit the country’s role as the world’s Central Bank for oil), the Kingdom will probably continue to defy skeptics for decades to come. Currently, its 260 billion barrels of proven reserves, a fifth of the world’s total, represent nearly one-third of the original oil in place estimated by the Saudi state oil giant, Saudi Aramco; 10 yet the company has pointed out that its measurement does not take into account potential future advantages of enhanced recovery techniques. On the opposite side of the spectrum are countries like the United States, Canada, Norway, and the United Kingdom, which record recovery rates above 45 percent, thanks to the open competition among international oil companies. The United States is a mature oil country, whose oil production declined from 1971 to 2009. Yet, it still holds huge volumes of unexploited oil. Although the country has documented oil reserves of only 29 billion barrels, in 2007, the National Petroleum Council (NPC) estimated that 1,124 billion barrels were still underground, of which 374 billion barrels could be recovered with then-current technology.4 Thus, price and technology are key elements in determining the evolution of oil reserves. The evolution starts with the other characteristics of the phenomenon known as “reserve growth.”

### Discovery of oil fields

#### Discovery of untapped oil – Norway proves

Oil Drum, 12/11 (Euan Mearns – contributor to Oil Drum - seeks to facilitate civil, evidence-based discussions about energy and its impacts on the future of humanity, “Massive Oil Field Discovered in the North Sea”, <http://oilprice.com/Energy/Crude-Oil/Massive-Oil-Field-Discovered-In-The-North-Sea.html>)

With relatively little fanfare on the international stage, Lundin Petroleum and Statoil (and partners) have just recently jointly discovered one of the largest oil fields ever found in the North Sea. The Aldous Major South - Avaldsnes discovery on the Utsira High structure is currently estimated to contain 1.7 to 3.3 billion barrels of recoverable oil. The astonishing thing about this discovery is that it has lain undiscovered in a mature oil province for so long providing ample encouragement for explorers to go on exploring.¶ The recoverable resource estimates have grown with every well drilled and with a new delineation well spudded on 28th November, further news on the size of this giant is expected in early January.¶ The Aldous Major South - Avaldsnes story has been a year in the making. The 16/2-6 discovery well was announced in September 2010, but the story only gained traction on 30th September 2011 when the recoverable resource estimate was substantially increased following evaluation of data from the 16/2-7a sidetrack well. Prior to then recoverable resource estimates for Avaldsnes were in the range 100-400 million barrels - not enough to get overly excited about. The 16/2-7a well extended the area of proved hydrocarbons but also "proved" that Avaldsnes and Aldous Major South were part of the same gigantic structure. Avaldsnes is now estimated to hold 0.8 to 1.8 billion barrels of recoverable oil and promises to be a giant field in its own right.¶ A note on terminology. The term resource is normally used to describe the quantity of oil in place and the term reserves used to describe the amount of that oil that can be economically recovered. At this stage of field appraisal, none of the oil in Aldous Major South - Avaldsnes can yet be booked as technical reserves. Instead the term recoverable resource is employed.¶ A note on well numbering convention. Well number 16/2-6 means that the well was drilled in Norwegian quadrant 16. Each Norwegian quadrant is divided into 12 blocks, and this well was drilled in block 2. It is the 6th well to be drilled on this block.¶ Shortly after, Statoil announced the results from the 16/2-10 delineation well on Aldous Major South on 21st October, which prior to then was estimated to contain 0.4 to 0.8 billion barrels recoverable resource. The 16/2-10 well proved a much bigger resource that is now estimated in the range 0.9 to 1.5 billion recoverable barrels.¶ Thus the combined Aldous Major South - Avaldsnes structure is now estimated to contain between 1.7 and 3.3 billion barrels of recoverable oil. The 16/5-2S well currently drilling represents a significant step out from the existing wells towards the south of the field. Success is not to be taken for granted. For example, the mapped structure is dependent upon accurate interpretation of seismic and the occurrence of oil is dependent on the presence of the reservoir sandstone in this part of the field. Should the well fail to find oil, then the resource estimate may settle toward the lower end of the current range; however, should it be successful then ever larger numbers are to be expected.¶ This recent presentation (large pdf) from Lundin states that the oil is intermediate grade with API gravity of 28? (slide 31) and that oil is "dripping out of the cores" (see picture on slide 31). Furthermore the water depth at 115 m is shallow by today's standards as is the depth to reservoir, which is only 1900m. All this seems too good to be true and as a rule of thumb, when something is too good to be true it often, though not always, is.¶ This discovery is remarkable since it will not only transform the fortunes of Lundin Petroleum and provide a welcome boost to Statoil, but it may also materially affect the future production profile for Norway. Norwegian oil production peaked in 2001 at 3.42 mmbpd (crude+condensate+NGL) and has been declining at an average rate of 5% for the last 9 years. The impact of Aldous Major South - Avaldsnes coming on stream towards the end of the decade is shown below. The field may build to a plateau production rate of around 500,000 bpd and remain on plateau for 11 years. The stacked production chart extends to 2040 and shows 3.3 billion barrels production from this sleeping giant. Production decline may be reversed for two to three years while the field is building to plateau. In 2040, this one field may account for over half all Norwegian oil production.

#### New oil fields discovered in Iran

UPI, 02/12 (United Press International (UPI) has been a leading provider of critical information to media outlets, businesses, governments and researchers worldwide, “Iran claims new oil field discovery”, <http://www.upi.com/Business_News/Energy-Resources/2012/02/13/Iran-claims-new-oil-field-discovery/UPI-44651329139756/>)

TEHRAN, Feb. 13 (UPI) -- Iran made an oil field discovery that will add to its recoverable reserve estimate of more than 150 million barrels, an official said.¶ Mahmoud Mohaddes, director of exploration for the National Iranian Oil Co., said there were "considerable" reserves available in a newly discovered oil field, Iran's state-funded broadcaster Press TV reports.¶ While he was short on specifics, he said more information on oil developments would surface before the end of the Iranian year in March.¶ The country's oil minister said recoverable reserves stand at around 154 billion barrels. Sanctions pressure on Iran's Central Bank has made it difficult for Tehran to process crude oil sales, however.¶ The European Union said it was placing an embargo on Iranian crude oil as punishment for Tehran's nuclear program. Iranian lawmakers said they backed a measure that would pre-empt the European measure, which would go into effect starting in July.¶ Iran is one of the top oil producers in the Organization of the Petroleum Exporting Countries.

#### US Exxon discovers oil

Bloomberg, 01/11 (Joe Carroll contributor of Bloomberg - the leader in global business and financial information, “Exxon Finds Biggest Oil Field In Gulf Of Mexico Since 1999”, <http://www.bloomberg.com/news/2011-06-08/exxon-mobil-reports-3-discoveries-in-gulf-of-mexico.html>).

Exxon Mobil Corp. (XOM) announced it found the equivalent of 700 million barrels of oil beneath the Gulf of Mexico, the biggest discovery in the region in 12 years.¶ The estimated size of the Hadrian field may increase as drilling continues, Exxon said in a statement today. The discovery is about 250 miles (400 kilometers) southwest of New Orleans in 7,000 feet of water, Irving, Texas-based Exxon said.¶ Exploratory drilling began in 2009 at the prospect and the company had finished two wells when a record oil spill from BP Plc’s Macondo well last year prompted a U.S. moratorium on deep- water exploration. Exxon confirmed the find with a third well it began drilling on March 26 under new government safety rules designed to protect rig workers and the environment.¶ Exxon’s Hadrian discovery is the biggest in the Gulf since BP’s 1 billion-barrel Thunder Horse find in 1999, Mohammad Rahman, a senior analyst at Wood Mackenzie Ltd. in Houston, said today in a telephone interview. Exxon engineers now are drilling deeper on the third Hadrian well, which currently extends 23,000 feet beneath the sea surface, because they believe there is more oil to be found, company spokesman Patrick McGinn said during an interview today.¶ “This is a very, very significant find,” Rahman said. “When a supermajor like Exxon Mobil throws a number like 700 million at you, it indicates they are very confident in what they’ve got here.”¶ Gulf Crude Production¶ The Gulf accounted for 29 percent of U.S. crude production in 2009, according to the Energy Information Administration. Wells in water 1,000 feet or deeper accounted for 81 percent of the Gulf’s oil output last year, a 10-fold increase from 1991, according to the Bureau of Ocean Energy.¶ Exxon rose as much as 2.3 percent, the most since March 21. The shares gained 76 cents to $80.76 at 4:09 p.m. in New York Stock Exchange composite trading. Exxon has increased 11 percent this year, exceeding the 10 percent rise in New York crude futures during the same period.¶ “This is good news not only for Exxon but for the industry as a whole because it shows that the deep water still holds significant promise,” Gianna Bern, founder of Brookshire Advisory and Research Inc., a Chicago-based risk-management adviser, said in a telephone interview.¶ There were 27 rigs drilling wells in Gulf waters deeper than 1,000 feet as of June 6, according to the Bureau of Ocean Energy Management, Regulation and Enforcement, the Interior Department agency that oversees offshore oil and gas activity.¶ Moratorium Delay¶ Exxon could have made the discovery sooner if the administration of President Barack Obama hadn’t been slow to issue drilling permits after the moratorium was lifted in October, said Representative Darrell Issa, a California Republican who leads the House Oversight and Government Reform Committee. The Bureau of Ocean Energy issued the first new deep- water drilling permit on Feb. 28, 4 ½ months after the ban formally ended.¶ “Today’s announcement is good news, but it cuts both ways,” Issa said today in an e-mailed statement. “Lost time is lost opportunity and the economic price has been paid by workers in the Gulf region and consumers at the gap pump.”¶ Mostly Oil¶ Exxon Chief Executive Officer Rex Tillerson in March announced plans to spend $100 million a day for the next half decade to expand the search for oil and natural gas in geologic formations previously regarded as impenetrable. The company’s exploration prospects extend from Greenland to Madagascar to Vietnam.¶ The Hadrian field is about 85 percent oil, based on data from three wells, the company said. Eni SpA (ENI) and Petroleo Brasileiro SA (PETR4) also hold stakes in the prospect, according to the release.¶ Exxon is leasing A.P. Moeller-Maersk A/S’s Maersk Developer rig to drill into Hadrian. The 2-year-old vessel is equipped to drill as deep as 40,000 feet beneath the sea surface, according to RigZone, a research firm that tracks the offshore drilling industry.

#### Oil discovery in Kenya – first time

Thesosanews, 03/12 (Newspaper – provides news around the world, “Kenya: Oil Field Discovery”, http://thesosanews.com/2012/03/26/kenya-oil-field-discovery/)

NAIROBI, Kenya (AP) — Kenya’s president announced Monday that oil has been discovered in his East African nation for the first time, and a foreign oil firm said the find is similar to the valuable light crude previously discovered in neighboring Uganda.¶ President Mwai Kibaki cautioned that commercial viability of the oil find in the northwest Turkana region is still uncertain, but he welcomed the news, calling it “a major breakthrough.” The discovery was made over the weekend.¶ “This is the first time Kenya has made such a discovery and it is very good news for our country,” Kibaki said. “It is however the beginning of a long journey to make our country an oil producer, which typically takes in excess of three years.”¶ Tullow Oil — which is carrying out oil exploration in the region — said that 20 meters (about 65 feet) of net oil pay was discovered at a site called Ngamia-1 in Kenya’s Turkana County.¶ The oil discovered in northwest Kenya is considered to be high-quality oil that will yield more gasoline and diesel per barrel than some other crude discoveries in Africa.¶ Tullow’s exploration director, Angus McCoss, called the discovery an “excellent start” to Tullow’s exploration campaign in the rift basins of Kenya and Ethiopia.¶ “To make a good oil discovery in our first well is beyond our expectations and bodes well for the material program ahead of us,” McCoss said in a statement, adding that the firm is working with Kenya’s government and plans on further seismic and drilling activities.¶ The oil find was near the border with Uganda and South Sudan. Both of those countries have oil industries.¶ Tullow said many other prospective sites similar to Ngamia have been identified “and following this discovery the outlook for further success has been significantly improved.”¶ Echoing Kibaki, Tullow spokesman George Cazenove sought to stress that Kenya was only at the beginning of a long process. He noted that oil was first discovered in neighboring Uganda in 2006 and has not yet reached the production stage. Though Uganda will get some oil to market next year, production won’t reach full speed until 2016, he said.¶ “I think Uganda provides a helpful parallel,” Cazenove said. “There’s a lot more work to do before we talk about how we get this to production and how it would affect Kenya as a nation.”¶ “It’s a great result but must be seen in context. It’s a long-term game for sure,” he said.¶ Kenya Energy Minister Kiraitu Murungi was quoted by Kenya’s leading newspaper, the Daily Nation, as saying that Tullow informed him that Kenya’s oil deposits could be bigger than Uganda’s. Cazenove declined to directly comment on Murungi’s claim but said that Uganda’s and Kenya’s oil potential are similar.¶ Tullow said the Ngamia well was drilled to 1,041 meters (3,415 feet) and would now be drilled to about 2,700 meters (8,858 feet) — a process that will be completed in May. Moveable oil with an API greater than 30 degrees was found — an industry measurement of how heavy the oil is. Tullow said the oil is light and waxy. Light crude oil has a low density and flows freely at room temperature. Light crude is more valuable than heavy crude.¶ Tullow, which began its exploration work in Kenya last year, has a 50 percent interest in multiple sites in Kenya and Ethiopia’s Rift Valley basins covering more than 100,000 square kilometers (38,610 square miles). Tullow is partnered with Africa Oil at the site of last weekend’s discovery.

### Refining

#### Refining companies are rebounding from near collapse after oil prices dropped – market turmoil would derail their increased capacity

Investor Daily’s Posted 6/22/2012 , “Strong Oil Market Fuels Rebound At Western Refining” http://community.nasdaq.com/News/2012-06/strong-oil-market-fuels-rebound-at-western-refining.aspx?storyid=150593

“A few years ago Western Refining ( WNR ) seemed like a prime candidate for bankruptcy.” The independent crude oil refiner was sagging under a heavy debt load, watching sales go south and losing money by the barrelful. Its stock price fell to around $4 a share in February 2010 after trading near 66 less than two years earlier. Today, Western looks like an entirely different company. It posted robust profits last year and is expected to earn even more in 2012. Its stock price recently hit an 11-month high of 21.49. Thanks to favorable market conditions, which have allowed Western to increase its production and improve margins, the company has run off four straight quarters of double-digit revenue gains and grown EPS nearly sixfold over the same period. Meanwhile, Western has improved its balance sheet and slashed its debt load. "They've seen a substantial increase in cash flow that has allowed them to repay debt," said Allen Good, senior analyst at Morningstar. "They were on the brink of bankruptcy in late '09 when oil prices sunk to low levels. But they've been able to rebound by capitalizing on higher price and improving their leverage." Crude Oil Boom Financially, Western has benefited on a couple of fronts. First, there has been a boom in North American crude production thanks to high oil prices and the emergence of new and better production techniques, such as shale fracking. Western also has capitalized on favorable spreads on West Texas Intermediate, or WTI, crude. WTI is primarily produced in North America. A large amount of it comes from the Permian Basin, which is located in western Texas and southeastern New Mexico. As the supply of WTI has increased, its price has dropped. WTI sells for anywhere from $10 to $20 cheaper than other types of crude. Refiners can buy WTI at a discount, then sell their refined products at a considerable profit. Refiners with facilities close to where WTI is produced have benefited the most. Western is one of them, thanks to its refineries in its hometown of El Paso as well as Gallup, N.M. "They've really benefited from the inland crude discount," Good said. That's reflected in the company's recent financial returns. Western earned 81 cents a share during its first quarter. That was up from 27 cents in the prior year and in line with views. Revenue gained 27% to $2.3 billion, topping estimates. Adjusted EBITDA for the quarter was $183 million vs. $111.7 million the prior year. In a note, Zacks Equity Research said Western's total refining throughput averaged 144,831 barrels per day (Bbl/d) during the quarter. That was up from 121,549 Bbl/d the prior year. Throughput volumes in the El Paso refinery increased 24.6% year-over-year, while those at the Gallup facility remained flat. The company's gross refining margin, excluding unrealized losses on hedging, rose to $20.34 a barrel from $17.13 a barrel the prior year. "The higher profitability could be attributed to the company's use of the less expensive West Texas crude oil as refinery inputs," Zacks said. In a statement following Western's Q1 report, Chief Executive Jeff Stevens said one of his company's priorities this year is to keep strengthening its balance sheet. "We have accelerated our targeted debt reduction for the year to $150 million to $175 million," he said. "On March 1, we made a $30 million prepayment on our term loan and on April 30, we made an additional $75 million prepayment on our term loan for a total year-to-date debt prepayment of $105 million." Western's total debt as of March 31 stood at $777 million, down from $1.05 billion the prior year. Four years ago, the total debt stood at more than $1.3 billion. Many of the company's debt problems stemmed from its 2007 buyout of Giant Industries. That deal nearly doubled Western's refining capacity, but also left it with a heavy debt load just as the refining industry began to falter. Record Revenue Western posted record revenue of $10.7 billion in 2008 and also logged net income of $64.2 million. The next year, revenue plunged 37% to $6.8 billion and the company posted more than $350 million in net losses. Rather than seek bankruptcy protection, Western took steps to improve its balance sheet. In November 2009, it suspended refining operations at a facility in Bloomfield, N.M., and converted it to a terminal. Less than a year later it did the same thing to its Yorktown, Va., refinery. The Yorktown operation was finally sold this past December for $220 million. "They've really streamlined their business at the same time they've lowered their debt," analyst Good said. Western Refining still has a lot of debt to pay down. And it faces the same potential head winds as any other oil or gas firm -- mainly, the inevitable down cycles and price slumps. But Good figures the company has put its biggest problems behind it and is in a good position to remain profitable. "Absent some unforeseen economic turmoil they should be in relatively good shape," he said. "Even as the ( WTI ) crude discount dissipates in 2013 and 2014, they should still benefit from better margins." The views and opinions expressed herein are the views and opinions of the author and do not necessarily reflect those of The NASDAQ OMX Group, Inc.

## New tek coming

#### New technologies are needed to access “unconventional” oil

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

If we do accept this definition of cheap oil, we may come to the conclusion that the bulk of it is almost depleted, also because it was the first to be discovered and exploited. Many of the largest and most productive oil basins in the world are approaching what I call technological maturity; the point at which traditional technologies are no longer effective. These basins include reservoirs in Persian Gulf countries, Mexico, Venezuela, and Russia, which started yielding oil in the 1930s, 1940s, and 1950s. For these fields to keep producing in the future, new technologies will be necessary; that requires additional costs.

## Impacts

### Economy

#### Energy portfolio diversification is key to avoid global economic decline

Jane Romero, Climate Change Policy Resesarcher, 2010 “Fast-tracking Renewable Energy: Pathways to sustainable, low-carbon energy utilization,” IGES White Paper III: Chapter 9, http://enviroscope.iges.or.jp/modules/envirolib/view.php?docid=2814

In recent years, there have been frenetic plans to scout for alternatives, harnessing renewable energy from all sources—wind, sun, geothermal, waves, and biomass—and considering a bigger share for nuclear power. With oil at over $100 per barrel, renewable energy was no longer deemed an expensive alternative. Unfortunately, the urgency fizzled out almost immediately as the impact of the global financial crisis reduced global oil demand, sinking the oil price down to about $35 per barrel by December 2008. Investments in the renewable energy sector dropped by 23% in the second half of 2008 compared to the second half of the previous year (REN21 2009). That sudden and extreme oil price fluctuation in 2008 exposed the vulnerability of global energy security, pushing the issue up in most governments’ priority policy agendas. It had the most significant impact in the transportation sector which relies on up to 70% of its fuel from oil. Most governments have responded with long-term plans to secure cleaner energy while others have topped up strategic reserves of oil. Currently the price of oil is rising again to over $70 per barrel, partly because the global economy is bouncing back but as most analysts say, primarily because of inelastic reserves (Lafleur 2009; Godt 2009). Old oil fields are declining and new oil ventures were cancelled when the price was low. At the earliest, it will take a year for new sources to start pumping. The need to diversify energy sources is strategic in maintaining the supply to meet current and future demand.

**Goldilocks key to new oil development, market instability undermines capacity and leads to shocks**

Richard Heinberg ,”How markets may respond to resource scarcity: The Goldilocks syndrome” Feb 21 2011, http://www.energybulletin.net/stories/2011-02-21/how-markets-may-respond-resource-scarcity-goldilocks-syndrome

As prices lofted, oil companies and private investors started funding expensive projects to explore for oil in remote and barely accessible places, or to make synthetic liquid fuels out of lower-grade carbon materials like bitumen, coal, or kerogen.

But then in 2008, just as the price of a barrel of oil reached its all-time high of $147, the economies of the OECD countries crashed. Airlines and trucking companies downsized and motorists stayed home. Demand for oil plummeted. So did oil’s price, bottoming out at $32 at the end of 2008.

But with prices this low, investments in hard-to-find oil and hard-to-make substitutes began to look tenuous, so tens of billions of dollars’ worth of new energy projects were canceled or delayed. Yet the industry had been counting on those projects to maintain a steady stream of liquid fuels a few years out, so worries about a future supply crunch began to make headlines.[3]

It is the financial returns on their activities that motivate oil companies to make the major investments necessary to find and produce oil. There is a long time lag between investment and return, and so price stability is a necessary condition for further investment.

Here was a conundrum: low prices killed future supply, while high prices killed immediate demand. Only if oil’s price stayed reliably within a narrow—and narrowing—“Goldilocks” band could serious problems be avoided. Prices had to stay not too high, not too low—just right—in order to avert economic mayhem.[4]

The gravity of the situation was patently clear: Given oil’s pivotal role in the economy, high prices did more than reduce demand, they had helped undermine the economy as a whole in the 1970s and again in 2008. Economist James Hamilton of the University of California, San Diego, has assembled a collection of studies showing a tight correlation between oil price spikes and recessions during the past 50 years. Seeing this correlation, every attentive economist should have forecast a steep recession beginning in 2008, as the oil price soared. “Indeed,” writes Hamilton, “the relation could account for the entire downturn of 2007-08. . . . If one could have known in advance what happened to oil prices during 2007-08, and if one had used the historically estimated relation [between oil price spikes and economic impacts] . . . one would have been able to predict the level of real GDP for both of 2008:Q3 and 2008:Q4 quite accurately.” [5]

This is not to ignore the roles of too much debt and the exploding real estate bubble in the ongoing global economic meltdown: As we saw in the previous two chapters, the economy was set up to fail regardless of energy prices. But the impact of the collapse of the housing market could only have been amplified by an inability to increase the rate of supply of depleting petroleum. Hamilton again: “At a minimum it is clear that something other than [I would say: “in addition to”] housing deteriorated to turn slow growth into a recession. That something, in my mind, includes the collapse in automobile purchases, slowdown in overall consumption spending, and deteriorating consumer sentiment, in which the oil shock was indisputably a contributing factor.”

Moreover, Hamilton notes that there was “an interaction effect between the oil shock and the problems in housing.” That is, in many metropolitan areas, house prices in 2007 were still rising in the zip codes closest to urban centers but already falling fast in zip codes where commutes were long.[6] Incremental field loss below $90 – anything lower risks the DA

AP July 19, 2012, “Lower prices slice profits for oil, gas companies,” JONATHAN FAHEY and CHRIS KAHN, AP Energy Writers, LN

For oil and gas companies, the math was simple in the second quarter: lower prices equaled lower profits. With gasoline prices averaging more than $3.40 per gallon nationwide and oil around $90 a barrel, it may be hard to believe oil companies are under duress. Most will report profits measured in the billions of dollars for the quarter. But they earned less than a year ago in some cases a lot less. That's because they had to sell oil and gas at lower prices. The average price for oil was 8.8 percent less from April to June. Natural gas prices have been especially painful. The average price dropped 46 percent compared with last year's second quarter. This has made many gas drilling operations unprofitable, so companies have begun to cut back. "We are all losing our shirts," said Exxon Mobil CEO Rex Tillerson in a speech recently. Exxon is the nation's largest producer of natural gas. The cutback means companies that provide drilling services to oil and gas companies have had less work to do, which should equate to lower profits. For refiners that buy oil and cook it into gasoline, though, the quarter was likely a good one. Many paid less for oil, but were still able to fetch high prices for their gasoline. And costs fell because they used low-priced natural gas to power some equipment. Here's more on what to expect from energy companies in the second quarter: OIL & NATURAL GAS The drop in the price of oil and natural gas is good news for just about everyone but the companies that produce and sell them. The top U.S. oil producers Chevron Corp., BP PLC, Exxon Mobil Corp., ConocoPhillips, Occidental Petroleum Corp., Royal Dutch Shell PLC, Anadarko Petroleum Corp. and EOG Resources Inc. are each expected to post lower profits in the second quarter, according to FactSet. Exxon and Chevron could each report next week that net income fell by more than $1 billion. Oil prices fell because new supplies came online just as a slowdown in the global economy reduced demand. Libya restarted its pipelines and oil fields shut down by last year's rebellion. Saudi Arabia pumped more oil to make up for an embargo of Iranian oil. And U.S. production is the highest since 1998. At the same time, the financial crisis in Europe and weaker economic growth in the U.S. and China helped reduce demand for oil as drivers, shippers and travelers used less gasoline, diesel and jet fuel. Drillers produced about 1.4 million barrels per day more than the market needed. This led to increased supplies and lower prices. The companies can't quickly cut costs, so the price drop can dramatically impact their bottom lines. The warmest winter on record reduced demand for natural gas for heating. But U.S. drillers kept producing more of the fuel than ever. This led to a glut and fears that the nation's storage facilities would run out of room by this fall. Natural gas prices hit a ten-year low early in April. For the quarter natural gas prices averaged $2.35 per 1,000 cubic feet, compared with an average of $4.38 a year earlier. Gas drillers cut back recently in hopes that prices will rise as production falls. Argus Research analyst Phil Weiss says that oil drillers may do the same. In the meantime profits will take a hit. Devon Energy Corp.'s earnings are expected to fall by half, to 89 cents per share from $1.71 last year, according to FactSet. Chesapeake Energy Corp.'s profits are expected to slip to 10 cents per share from 76 cents per share, and Range Resources Corp. is expected to post earnings of 9 cents per share, down from 27 cents last year. REFINERS American refiners fared better in the second quarter. They were able to buy cheaper oil, while gasoline prices rose in some parts of the country. Profits varied depending on where refineries bought their oil, and where they sold gasoline and other fuels. Those with access to oil from the interior of the U.S. and Canada such as HollyFrontier Corp. and Tesoro Corp. had a big advantage. Oil production is booming in the middle of the country. But there isn't enough pipeline capacity to move the oil out, so supplies have reached their highest levels ever and prices have dipped. Benchmark West Texas Intermediate crude sets the price for much of the oil produced in the interior of the U.S. It was more than $15 per barrel cheaper than Brent crude, which sets the price for crude produced offshore. Canadian crudes were even cheaper. Refiners with big operations on the East coast, such as Sunoco, bore the cost of buying more of the expensive, Brent-based crudes. Refineries that sold their gasoline and diesel to the West Coast likely generated higher profits than others. Gasoline prices there rose by about 14 cents per gallon in the second quarter, compared with the same part of 2011, because of gasoline shortages. The national average fell by 8.4 cents per gallon in that same period. Valero Energy Corp., HollyFrontier and Tesoro are expected to post higher profits in the second quarter, according to FactSet. OIL SERVICE COMPANIES Most of the biggest companies that help oil and gas companies find and produce oil and gas are expected to post lower quarterly profits.

### Tek Leadership

#### High oil key to US independence and global unconventional oil production

Mark Perry 6-26-12(Dr. Mark J. Perry is a professor of economics and finance in the School of Management at the Flint campus of the University of Michigan) ¶ <http://www.dailymarkets.com/economy/2012/06/26/no-peak-oil-in-sight-weve-got-an-unprecedented-upsurge-in-global-oil-production-underway/>

1. Contrary to what most people believe, oil is not in short supply and oil supply capacity is growing worldwide at such an unprecedented level that it might outpace consumption. From a purely physical point of view, there are huge volumes of conventional and unconventional oils still to be developed, with no “peak-oil” in sight. The full deployment of the world’s oil potential depends only on price, technology, and political factors. More than 80 percent of the additional production under development globally appears to be profitable with a price of oil higher than $70 per barrel.

2. The shale/tight oil boom in the United States is not a temporary bubble, but the most important revolution in the oil sector in decades. It will probably trigger worldwide emulation, although the U.S. boom is difficult to be replicated given the unique features of the U.S. oil (and gas) arena. Whatever the timing, emulation over the next decades might bear surprising results, given the fact that most shale/tight oil resources in the world are still unknown and untapped. China appears to be the first country to follow the U.S. example. Moreover, the extension of horizontal drilling and hydraulic fracturing combined to conventional oil fields might dramatically increase world’s oil production and revive mature, declining oilfields.

3. In the aggregate, conventional oil production is also growing throughout the world, although some areas (e.g. the North Sea), face an apparently irreversible decline of the production capacity. In most traditional producing countries, old oilfields go through a production revival thanks to better techniques and knowledge, or advanced exploration and production technologies, so far used only in the U.S. and in the North Sea. Huge parts of the world are still relatively unexplored for conventional oil (for example, the Arctic Sea or most of sub-Saharan Africa).

4. Over the next decades, the growing role of unconventional oils will make the Western hemisphere the new center of gravity of oil exploration and production.

5. Based on original, bottom-up, field-by-field analysis of most oil exploration and development projects in the world, this paper suggests that an unrestricted, additional production of more than 49 million barrels per day (mbd) of oil is targeted for 2020, the equivalent of more than half the current world production capacity of 93 mbd.

6. After adjusting this substantial figure considering the risk factors affecting the actual accomplishment of the projects on a country-by-country basis, the additional production that could come by 2020 is about 29 mbd. Factoring in depletion rates of currently producing oilfields and their “reserve growth,” the net additional production capacity by 2020 could be 17.6 mbd, yielding a world oil production capacity of 110.6 mbd by that date – as shown in Figure 1 above. This would represent the most significant increase in any decade since the 1980s.

#### Technological leadership is the vital internal link to hegemony—*theoretical models* and *500 years of history*.

Drezner 1 — Daniel Drezner, Assistant Professor of Political Science at the University of Chicago, International Economist in the Office of International Banking and Securities at the Department of the Treasury, International Affairs Fellow at the Council on Foreign Relations, holds a Ph.D. in Political Science from Stanford University, 2001 (“State Structure, Technological Leadership and The Maintenance Of Hegemony,” *Review of International Studies*, Volume 27, Issue 1, Available Online to Subscribing Institutions via Cambridge Journals Online, p. 3-5)

The importance of economic growth to state power is undisputed by international relations scholars.1 The importance of technological innovation to economic growth is similarly undisputed by economists.2 Logically, technological leadership is a linchpin of great-power status in the world, a fact recognized by long-cycle theorists.3 However, despite the obvious importance of innovation to power, and despite a large literature on how the state should be organized to maximize the extraction of societal resources, there has been very little written in international political economy on the state’s role in fostering technological leadership. [end page 3]

The relationship between innovation and the nation-state has been discussed in international relations, but the debates that touch on the subject mention it only in passing. In the late seventies, there was a great deal of discussion about state ‘strength’ vis-à-vis society as a way of determining foreign economic policies, including industrial policies.4 One of the implicit arguments in this literature was that strong states would pursue more enlightened economic policies. However, the strong state/weak state typology has been criticized as vague, and this literature has moved away from the study of economic issues, focusing more on security policies.5

In this decade, proponents of globalization argue that because information and capital are mobile, the location of innovation has been rendered unimportant.6 While this notion has some popular appeal, the globalization thesis lacks theoretical or empirical support. Theoretically, even in a world of perfect information and perfect capital mobility, economists have shown that the location of technological innovation matters.7 Empirically, the claims of globalization proponents have been far-fetched. Capital is not perfectly mobile, and increased economic exchange does not lead to a seamless transfer of technology from one country to another.8 The location of innovation still matters.

Long-cycle theorists have paid the most attention to the link between technological innovation, economic growth, and the rise and fall of hegemons.9 They argue that the past five hundred years of the global political economy can be explained by the waxing and waning of hegemonic powers. Countries acquire hegemonic status because they are the first to develop a cluster of technologies in leading sectors. These innovations generate spillover effects to the rest of the lead economy, and then to the global economy. Over time, these ‘technological hegemons’ fail to maintain the rate of innovations, leading to a period of strife until a new hegemon is found. While this literature has done an excellent job at describing the link between [end page 4] innovation, economic growth, and global stability, it cannot explain why technological hegemons lose their lead over time.

#### Competitiveness is key to hegemony—science and technology innovation is vital to sustain leadership.

Segal 4 — Adam Segal, Maurice R. Greenberg Senior Fellow in China Studies at the Council on Foreign Relations, 2004 (“Is America Losing Its Edge?; Innovation in a Globalized World,” *Foreign Affairs*, January-February, Available Online to Subscribing Institutions via Lexis-Nexis)

The United States' global primacy depends in large part on its ability to develop new technologies and industries faster than anyone else. For the last five decades, U.S. scientific innovation and technological entrepreneurship have ensured the country's economic prosperity and military power. It was Americans who invented and commercialized the semiconductor, the personal computer, and the Internet; other countries merely followed the U.S. lead.

Today, however, this technological edge—so long taken for granted—may be slipping, and the most serious challenge is coming from Asia. Through competitive tax policies, increased investment in research and development(R&D), and preferential policies for science and technology (S&T) personnel, Asian governments are improving the quality of their science and ensuring the exploitation of future innovations. The percentage of patents issued to and science journal articles published by scientists in China, Singapore, South Korea, and Taiwan is rising. Indian companies are quickly becoming the second-largest producers of application services in the world, developing, supplying, and managing database and other types of software for clients around the world. South Korea has rapidly eaten away at the U.S. advantage in the manufacture of computer chips and telecommunications software. And even China has made impressive gains in advanced technologies such as lasers, biotechnology, and advanced materials used in semiconductors, aerospace, and many other types of manufacturing.

Although the United States' technical dominance remains solid, the globalization of research and development is exerting considerable pressures on the American system. Indeed, as the United States is learning, globalization cuts both ways: it is both a potent catalyst of U.S. technological innovation and a significant threat to it. The United States will never be able to prevent rivals from developing new technologies; it can remain dominant only by continuing to innovate faster than everyone else. But this won't be easy; to keep its privileged position in the world, the United States must get better at fostering technological entrepreneurship at home.

#### US circumstances make it key to global oil innovation

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

Before examining the extent of the shale/tight oil revolution in the U.S., it is worth noting that it is not only the result of a huge resource endowment, but it also stems from the uniqueness of some features of the U.S. oil industry and market, which make it difficult to be replicated in other areas of the world – at least in a short period of time.

First of all, in the U.S., individuals and companies may own property rights on mineral resources, while in most parts of the world these rights belong to states only. This fact gives a huge incentive to land owners to lease their property rights and to the oil industry to lease or buy them.

Another major feature of the uniqueness of the U.S. and Canada is the presence of thousands of independent oil companies, ranging from very small to multibillion companies, that historically played the role of pioneering new frontiers.

The strategies and business models of these independent companies are usually much different from those of the large, integrated multinational oil companies, and require a short digression.

Oil independents typically search for high risk-high reward opportunities whose potential is uncertain and whose initial development cannot comply with the rigid financial criteria used by big oils for taking investment decisions. Moreover, most of these companies, oftentimes owned by a single person or a small group of partners, are mostly focused on cash flows and growth, rather than profits and high profitability, at least in the first stages of their development.

As long as they are successful in their undertakings while being cash-positive, they will succeed in getting the money they need to grow their business. Eventually, they can decide to sell their entire business to larger independents or bigger oil companies, as well as to go public. Their time-frame for success, thus, is much shorter than that of big multinational oil companies: they couldn’t afford the be cash-negative for long periods of time, otherwise their investors could stop supplying money; they cannot be unsuccessful in their growth-strategies, otherwise they cannot make money by selling part (of all) of their equity. Although highly innovative, then, oil independents usually do not do not engage in proprietary technology development (an exception is represented by larger independents), but they apply or adapt existing technologies in innovative ways to new targets, improving their processes and applications, thanks to the help of oil service companies (such as Halliburton or Schlumberger) that are the real owners of technological know-how in the oil and gas sector.

Another feature of the U.S. (and Canada) oil and gas sector is the presence of several financial institutions, funds, capital ventures, equity firms that are eager to fund independent companies, oftentimes by becoming their equity partners.

A final, unique feature of the U.S. (and Canadian) hydrocarbon arena is the broad availability and flexible market of drilling rigs and other essential tools of oil exploration and production. For instance, the U.S. and Canada have about 65 percent of all drilling rigs existing in the world.

All these features are foreign to other parts of the world, and they make the U.S. and Canada a sort of unique play for experimentation and innovation, such in the case of U.S. shale oil and gas or Canadian tar sands.

### Alberta

#### **Reduced demand will collapse new shale development in Canada, investors are on the brink now**

The Independent (London), June 14, 2012 Thursday

Second Edition

CANADA IN DANGER OF BOOMING TAR SANDS BACKLASH;

Experts warn that Alberta's success story could unravel in face of falling oil prices as investors weigh up whether to pull the plug on lucrative projects, says Tom Bawden Six weeks ago Canada's booming tar sands industry was growing so fast that it looked possible it might one day overtake every major oil-producing nation except for Saudi Arabia. With West Texas Intermediate crude trading at more than $105 a barrel there was no question the vast, but costly to extract, reserves of oil contained in the tar sands of the Alberta province would yield a huge profit. Just how vast an economic opportunity this presented for Canada was laid bare in BP's latest statistical review of world energy, published yesterday. This showed that while Canada's tar sands-dominated crude production stood at 4.3 per cent of global output last year, the country actually houses 10.6 per cent of the world's proven, recoverable oil reserves. This is the third largest reserve of any nation - in other words, even after a decade-long boom, Alberta was only warming up. After two years of sustained high oil prices, investors had regained the confidence that was shattered when the financial crisis pulled oil below $40 a barrel and prompted them to shelve $80bn of planned developments in 2008 and 2009. An unprecedented 16 projects were scheduled to come on stream over the next four years, increasing the output of bitumen - a heavy form of crude - by 1 million barrels a day to 2.6 million. But a lot has changed since the beginning of May. West Texas crude has tumbled by about a fifth to hover around $80 a barrel and there are fears of a continued decline that threatens the viability of large swathes of Canada's biggest industry. Last week, Wood Mackenzie, the oil experts, came out and said what many in the industry had increasingly been fearing. Noting the tar sands' high-energy extraction process meant production costs were among the highest of any oil fields in the world, Wood Mackenzie warned that falling - or simply volatile - prices "could result in operators delaying or cancelling unsanctioned projects." While this may not feed through into reduced production straight away, in the longer term output could be hit substantially, Wood Mackenzie warned. "There is little scope to adjust near-term production, due to the amount of capital already sunk. However, if the external environment proves to be unattractive, companies do have the option to significantly change the longer-term production outlook," Wood Mackenzie said. Wood Mackenzie points out that a quarter of planned tar sand projects scheduled to begin production between 2015 and 2018 are still "unsanctioned" - meaning their financing is yet to be finalised and making them particularly vulnerable to delay or cancellation in the coming months if the oil price is dragged down further.

### ME Dependency

#### Middle east dependency results in WMD terrorism

Luft, Gal 10-27-04, executive director of the Institute for the Analysis of Global Security in Washington, D.C. a specialist on strategic issues and energy policy with a PhD in strategic studies, A former lieutenant colonel in the Israel Defense Forces, writings have appeared in *Commentary, Foreign Affairs,* the *Los Angeles Times, Middle East Review of International Affairs,* the *Washington Post* and *Wall Street Journal* http://www.meforum.org/653/ending-americas-dependence-on-middle-east-oil)

Today, however, the U.S. finds itself in the position of financially supporting both itself and its enemies in the "War on Terror." This is a consequence of the U.S.'s growing dependence on oil, particularly as a transportation fuel. Currently, the United States consumes 25% of the world's oil while possessing only 3% of world oil reserves. The Muslim world, in contrast, depends on oil far less while possessing 75% of the world's oil reserves. As the U.S. continues to invest in the oil economies of the Middle East and the 5

, these economies continue to use their oil revenues to spread radical Islam, promote anti-Semitic and anti-American ideas, and in some cases, develop unconventional weapons. Every time an American goes to a gas station, he is sending money to America's enemies. To complicate the matter, America is not the only country with a growing demand for foreign oil. China and India, hosting two of the largest and fastest growing economies, are also experiencing a steep rise in their demand for transportation fuel. China, for example, will likely enter into Middle Eastern politics in order to meet this demand. It will need to enhance its diplomatic relations in the region and possibly increase its weapons sales to the Muslim world's oil moguls. Foreshadowing this potential development is the Pakistani nuclear bomb, which was built by the Chinese and financed by the Saudis. The steeply rising demand for oil today means that the disruption of petroleum production causes oil prices to rise. America's Islamist foes are aware of this reality and view it as America's Achilles' heel. According to an al-Qaeda spokesman, the October 2002 attack on a French oil tanker off the coast of Yemen was a victory against the "Crusader nations." After the terrorist attack against oil employees in Khobar, Saudi Arabia, al-Qaeda leaders bragged that the consequent rise in oil prices caused Americans to suffer. Some people believe that an American invasion of Saudi Arabia, home to the world's largest oil reserves, will resolve the oil problem. These people fail to look at the situation in Iraq, home to the world's second largest oil reserve. Due to the instability caused by the invasion, the U.S. is not receiving any Iraqi oil and will not obtain any Iraqi oil in the near future. Results from an invasion of Saudi Arabia would be similar. The U.S. needs to get serious about gradually reducing the demand for foreign oil and bringing about the turning point in the current war. To do so, it must promote scientific and technological advancement by tapping into homegrown fuel sources that can be used for transportation purposes. These include: electricity, coal, and biomass (agricultural waste). Currently, the U.S. has 25% of the world's coal and billions of tons of biomass. In fact, nearly 60% of the garbage Americans throw away can be used as transportation fuel. Electricity can power vehicles. On an electric battery, a vehicle may drive between 20 and 40 miles before the battery needs to recharge, which can be done easily overnight. New hybrid vehicles will carry both an electric battery and a normal engine. The engine will run on gasoline only after a driver exceeds the mile capacity of the electric battery. This will make possible trips longer than 40 miles. These hybrids will empower electricity companies and end the transportation fuel monopoly held by the oil companies. Alcohol fuels such as ethanol, made from corn or biomass and methanol, made from coal, can also power a vehicle. Flexible fuel vehicles can run on any combination of gasoline and alcohol, thus reducing the overall amount of oil used. There are three million cars on the road today that are built to use the alcohol-gasoline mixture. Ford Taurus, Dodge Caravan, and Mercedes C-320 are all flexible fuel cars. In addition to decreasing U.S. need for foreign oil, flexible fuel will also aid the economy because it will bring new jobs to the American farmers and the American coal miners. These alternate fuel vehicles can move the U.S. into an energy era free of dependence on OPEC and other oil exporters. Equally significant, the Europeans, Chinese, Japanese, and others will look to the U.S. as the world leader in this new energy era.Unfortunately, current U.S. energy policy is looking elsewhere, towards seeking oil reserves outside the Middle East. This is at best a short-term and ultimately shortsighted solution. If we deplete the oil reserves outside the Middle East before we deplete the reserves in the Middle East, we will become in time more dependent on Middle Eastern oil than ever before. To avoid these outcomes, there needs to be a "Set America Free Plan" that will utilize alternate energy sources. In order to effectively implement its principles, leaders of this initiative must use the conservative political movement in America as its avenue to the American public. Usually, environmental political groups endorse energy initiatives of this nature as part of environmental preservation or anti-global warming campaigns. These campaigns, however, fail to resonate with the American public because of a general apathy toward the environment and distrust of anti-capitalists causes. Contrarily, if the initiative is presented by the conservatives and linked to the national security agenda, it will gain the necessary public support for implementation. Consequently, liberal political groups will also look to endorse the new energy campaign, further bolstering its appeal. Essentially, America will not be able to win its "War on Terror" if energy security is not at the top of its agenda.

#### High oil prices prevents OPEC price dominance

James F.Smith 12 (Communications Director, Belfer Center for Science and International Affairs)

<http://pcm.harddollar.com/blog/bid/179645/Technology-Spurs-Oil-the-Next-Revolution>

Maugeri’s analysis finds that the gross additional production from current exploration and development projects in the world could produce an additional 49 million barrels per day by 2020, an increase equivalent to more than half the world’s current 93 million bpd. After adjusting that gross output increase for political and technical risk factors as well as the offsetting depletion rates of current fields, the analysis projects the net increase by 2020 to be about 17.5 bpd.¶ His study attributes the expected growth in oil output largely to a combination of high oil prices and new technologies such as hydraulic fracturing that are opening up vast new areas and allowing extraction of “unconventional” oil such as tight oil, oil shale, tar sands and ultra-heavy oil. These increases are projected to be greatest in the United States, Canada, Venezuela and Brazil. Maugeri also predicts a major increase in Iraq’s oil output as it regains stability, which will add new production in the Persian Gulf region -- potentially destabilizing OPEC’s ability to manage output and prices.¶ The combination of new production in the Western Hemisphere and the still growing production in other parts of the world could lead to a sharp drop in oil prices, Maugeri finds, which if steep enough could lead oil companies to cut back on investment and ultimately slow down oil supplies. But if oil prices remain above about $70 per barrel, sufficient investment will occur to sustain continued growth in production, possibly leading to a stable phenomenon of oil overproduction after 2015.

### Chemical Industry

#### Chemical industry is about to enter a golden age – prices must stay above $70

John Pearson, CEO and Owner at Chemical Industry Roundtables, Chemical Round Tables February 27, Chemical industry 2012, “Nearing the Goldilocks oil price?”

http://chemicalroundtables.com/wordpress2/?p=101

Crude oil prices have exhibited a strong upward trajectory recently. Rising prices have been driven by a host of factors, including surging demand from emerging economies like China and India, political instability, and the expected time needed to open up major new finds in deep water locations off the coast of Brazil and in the Gulf of Mexico.

At the start of the millennium, oil prices were consistently under $40/barrel. Then, around the start of 2005, they started to take off. Cheap money was fueling economic growth across the globe, and robust demand from all quarters drove oil prices to peak at over $140/barrel in mid-2008. As cheap money disappeared and bubbles popped, prices fell back to around $35/barrel in early 2009. From there, they have strengthened to close to $110/barrel today. This chart shows the trend:

It is always dangerous to forecast the oil price, but it is pretty clear that the trend of the last 10 years is steadily upwards, and, despite concerns over the world economy, seems likely to settle at higher levels than in the past. Prices of $70/barrel and above seem almost certain for the next decade, barring radical changes in the energy supply around the world, or a collapse in economic activity in Europe or the emerging economies.

From the viewpoint of sustainability in the chemical industry, this trend creates interesting possibilities. It was estimated by SRI Consulting in the mid part of the last decade that $70 was a price at which Brazilian ethanol, for example, would become a competitive feedstock for making chemicals that might otherwise be derived from oil. It is also anecdotally known that some of the major companies have seen a price of $70-80/barrel as one justifying accelerated research into oil alternatives. However, a price of around $100/barrel is (also anecdotally) known to be a price at which China would intensify its investment in making chemicals from coal feedstocks.

This decade may be the time that the oil price moves into Goldilocks territory, where it is at just the right level to accelerate research into, and exploitation of, alternative feedstocks (ranging from shale gas liquids to bio-feedstocks). If so, we shall see a golden age of chemical industry sustainable development.

#### Chemical industry solves extinction

Baum 99 (Rudy M., C&EN Washington, Chemical and Engineering News, Millennium Special Report, 12-6, <http://pubs.acs.org/hotartcl/cenear/991206/7749spintro2.html>)

Here is the fundamental challenge we face: The world's growing and aging population must be fed and clothed and housed and transported in ways that do not perpetuate the environmental devastation wrought by the first waves of industrialization of the 19th and 20th centuries. As we increase our output of goods and services, as we increase our consumption of energy, as we meet the imperative of raising the standard of living for the poorest among us, we must learn to carry out our economic activities sustainably. There are optimists out there, C&EN readers among them, who believe that the history of civilization is a long string of technological triumphs of humans over the limits of nature. In this view, the idea of a "carrying capacity" for Earth—a limit to the number of humans Earth's resources can support—is a fiction because technological advances will continuously obviate previously perceived limits. This view has historical merit. Dire predictions made in the 1960s about the exhaustion of resources ranging from petroleum to chromium to fresh water by the end of the 1980s or 1990s have proven utterly wrong. While I do not count myself as one of the technological pessimists who see technology as a mixed blessing at best and an unmitigated evil at worst, I do not count myself among the technological optimists either. There are environmental challenges of transcendent complexity that I fear may overcome us and ourEarth before technological progress can come to our rescue. Global climate change, the accelerating destruction of terrestrial and oceanic habitats, the catastrophic loss of species across the plant and animal kingdoms—these are problems that are not obviously amenable to straightforward technological solutions. But I know this, too: Science and technology have brought us to where we are, and only science and technology, coupled with innovative social and economic thinking, can take us to where we need to be in the coming millennium. Chemists, chemistry, and the chemical industry—what we at C&EN call the chemical enterprise—will play central roles in addressing these challenges. The first section of this Special Report is a series called ["Millennial Musings"](http://pubs.acs.org/hotartcl/cenear/991206/7749muse1.html) in which a wide variety of representatives from the chemical enterprise share their thoughts about the future of our science and industry. The five essays that follow explore the contributions the chemical enterprise is making right now to ensure that we will successfully meet the challenges of the 21st century. The essays do not attempt to predict the future. Taken as a whole, they do not pretend to be a comprehensive examination of the efforts of our science and our industry to tackle the challenges I've outlined above. Rather, they paint, in broad brush strokes, a portrait of scientists, engineers, and business managers struggling to make a vital contribution to humanity's future. The first essay, by Senior Editor Marc S. Reisch, is a case study of the [chemical industry's ongoing transformation to sustainable production.](http://pubs.acs.org/hotartcl/cenear/991206/7749sustain.html) Although it is not well known to the general public, the chemical industry is at the forefront of corporate efforts to reduce waste from production streams to zero. Industry giants DuPont and Dow Chemical are taking major strides worldwide to manufacture chemicals while minimizing the environmental "footprint" of their facilities. This is an ethic that starts at the top of corporate structure. Indeed, Reisch quotes Dow President and Chief Executive Officer William S. Stavropolous: "We must integrate elements that historically have been seen as at odds with one another: the triple bottom line of sustainability—economic and social and environmental needs." DuPont Chairman and CEO Charles (Chad) O. Holliday envisions a future in which "biological processes use renewable resources as feedstocks, use solar energy to drive growth, absorb carbon dioxide from the atmosphere, use low-temperature and low-pressure processes, and produce waste that is less toxic." But sustainability is more than just a philosophy at these two chemical companies. Reisch describes ongoing Dow and DuPont initiatives that are making sustainability a reality at Dow facilities in Michigan and Germany and at DuPont's massive plant site near Richmond, Va. Another manifestation of the chemical industry's evolution is its embrace of life sciences. Genetic engineering is a revolutionary technology. In the 1970s, research advances fundamentally shifted our perception of DNA. While it had always been clear that deoxyribonucleic acid was a chemical, it was not a chemical that could be manipulated like other chemicals—clipped precisely, altered, stitched back together again into a functioning molecule. Recombinant DNA techniques began the transformation of DNA into just such a chemical, and the reverberations of that change are likely to be felt well into the next century. Genetic engineering has entered the fabric of modern science and technology. It is one of the basic tools chemists and biologists use to understand life at the molecular level. It provides new avenues to pharmaceuticals and new approaches to treat disease. It expands enormously agronomists' ability to introduce traits into crops, a capability seized on by numerous chemical companies. There is no doubt that this powerful new tool will play a major role in [feeding the world's population](http://pubs.acs.org/hotartcl/cenear/991206/7749food.html) in the coming century, but its adoption has hit some bumps in the road. In the second essay, Editor-at-Large Michael Heylin examines how the promise of agricultural biotechnology has gotten tangled up in real public fear of genetic manipulation and corporate control over food. The third essay, by Senior Editor Mairin B. Brennan, looks at chemists embarking on what is perhaps the greatest intellectual quest in the history of science—humans' attempt to understand the detailed chemistry of the human brain, and with it, human consciousness. While this quest is, at one level, basic research at its most pure, it also has enormous practical significance. Brennan focuses on one such practical aspect: the effort to understand [neurodegenerative diseases like Alzheimer's disease and Parkinson's disease](http://pubs.acs.org/hotartcl/cenear/991206/7749health.html) that predominantly plague older humans and are likely to become increasingly difficult public health problems among an aging population. [Science and technology are always two-edged swords.](http://pubs.acs.org/hotartcl/cenear/991206/7749secu.html) They bestow the power to create and the power to destroy. In addition to its enormous potential for health and agriculture, genetic engineering conceivably could be used to create horrific biological warfare agents. In the fourth essay of this Millennium Special Report, Senior Correspondent Lois R. Ember examines the challenge of developing methods to counter the threat of such biological weapons. "Science and technology will eventually produce sensors able to detect the presence or release of biological agents, or devices that aid in forecasting, remediating, and ameliorating bioattacks," Ember writes. Finally, Contributing Editor Wil Lepkowski discusses the most mundane, the most marvelous, and the most essential molecule on [Earth, H2O.](http://pubs.acs.org/hotartcl/cenear/991206/7749water.html) Providing clean water to Earth's population is already difficult—and tragically, not always accomplished. Lepkowski looks in depth at the situation in Bangladesh—where a well-meaning UN program to deliver clean water from wells has poisoned millions with arsenic. Chemists are working to develop better ways to detect arsenic in drinking water at meaningful concentrations and ways to remove it that will work in a poor, developing country. And he explores the evolving water management philosophy, and the science that underpins it, that will be needed to provide adequate water for all its vital uses. In the past two centuries, our science has transformed the world. Chemistry is a wondrous tool that has allowed us to understand the structure of matter and gives us the ability to manipulate that structure to suit our own purposes. It allows us to dissect the molecules of life to see what makes them, and us, tick. It is providing a glimpse into workings of what may be the most complex structure in the universe, the human brain, and with it hints about what constitutes consciousness. In the coming decades, we will use chemistry to delve ever deeper into these mysteries and provide for humanity's basic and not-so-basic needs.

## Answers

### A2: High Oil Harms Econ/Heg

#### High prices don’t undercut US growth

Andrew McKillop July 13, 2012 , “is an energy and natural resource sector professional with over 30 years experience covering multiple domains of key interest to investment,” THE WIDENING GULF http://samcheekong.blogspot.com/2012/07/oil-and-security.html

Rather than strategic fear of dependence on foreign oil, both the US and other major oil-using

economies now have declared policy targets on reducing economic dependence on oil. The difference is

large. Oil saving and substitution builds on always-existing but never applied policies that were first set after the October 1973 crisis. At the time, using IEA data, the OECD group of countries depended on oil for 52.6% of their commercial energy. Today's OECD, which now includes oil intensive economies such as South Korea and Mexico, depends on oil for under 36% of its commercial energy. Also using IEA data for 2011, with oil prices often nudging $120 per barrel the cost of oil imports for the US, Japan and the EU27 states ranged from 2.2% to 2.7% of GDP: claiming this permanently threatens the economy is stretching the imagination.

### At: Glut Now

#### Development now will result in a stable decline in prices in the future

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

The oil market will remain highly volatile until 2015 and prone to extreme movements in opposite directions, thus representing a major challenge for investors, in spite of its short and long term opportunities. After 2015, however, most of the projects considered in this paper will advance significantly and contribute to a strong build-up of the world’s production capacity. This could provoke a major phenomenon of overproduction and lead to a significant, stable dip of oil prices, unless oil demand were to grow at a sustained yearly rate of at least 1.6 percent for the entire decade.

# Production DA Ext

## Price Uniqueness

#### US demand increase raising prices now

Shanghai Daily (Benchmark), July 20, 2012 Friday, “Oil price climbs above US$90 on stronger US demand” Lexis

THE price of oil climbed above US$90 per barrel for the first time since. May after the government said US oil demand is on the rise. The Energy Information Administration reported yesterday that average oil demand increased last week in the US for the third week in a row. Oil demand had been down most of the year, when compared with 2011, as manufacturing activity slowed and drivers cut back on travel. Benchmark US crude rose 37 cents to US$89.59 per barrel in New York. It hit US$90.04 per barrel earlier in the day, the highest price since May 30. Meanwhile, retail gasoline prices rose 2 cents to a national average of US$3.426 per gallon (3.7 liters).

#### At worse, prices will bottom out at around 75 and rebound to $100 by years end

CNBC June 22, 2012 “Why Oil Prices Will Keep Falling: Record Pumping,” http://www.cnbc.com/id/47919732

"I think the slide is going to begin to tail a little. I wouldn't be surprised to see some profit-taking rebounds. The direction for the market tends to be lower, and until we get some better economic conditions, the market is hunting for a bottom," said Gene McGillian, Tradition Energy. McGillian said the market is heading to the lows of last year, around $75 per barrel for WTI. Brent, already at an 18-month low, could move as low as $80 per barrel. "I think a lot of the economic worries have been priced in for the moment and the market's catching its collective breath right now," he said. Citigroup’s Ed Morse, who heads commodities research, doesn’t expect oil to keep falling for long, but he doesn’t expect it to get back to its year highs soon either. “We think there’s no reason for a sustained price recovery for Brent above $100 or WTI above $85 through the second half of the year,” he said.

#### Goldilocks now – Texas proves

DAVE FEHLING, state impact staff, MAY 14, 2012 “As Prices Fall, Finding a Sweet Spot for Oil in Texas”

<http://stateimpact.npr.org/texas/2012/05/14/goldilocks-and-the-price-of-oil-in-texas/>

THE ‘GOLDILOCKS’ PRICE

Her customers aren’t the only ones in Texas who are happy with what oil is now selling for. “Right now, we seem to be in a sweet spot,” said James LeBas who advises the Texas Oil & Gas Association. LeBas used to work for the State of Texas, estimating how much revenue would come from taxes, including those from oil and gas drilling. “Employment is rising, production is rising, drilling is rising. State and local governments are taking in a lot of additional tax revenues that were unanticipated. And as long as we stay in this band where we are today, it seems to be healthy for everybody,” said LeBas. Some call it the Goldilock’s price for oil: not too low that it discourages production, not too high that it hurts demand. FOR TEXAS, MORE TAX REVENUE A few decades ago, the state got roughly a quarter of all tax revenue from oil and gas production. Today, it gets only about half that, said Dale Craymer, another former revenue estimator for Texas and now president of the Texas Taxpayers and Research Association. “But still, no question, it’s a critically important source of revenue to the state,” Craymer told StateImpact Texas. “Texas state finances tend to rise and fall with the health of the oil and gas industry,” said Craymer. And right now, those finances are beating expectations. “(The state’s) official budget projections are based on a little less than $80 a barrel. And we’re running close to $100 a barrel now so we are running well in excess of our official forecast,” said Craymer. HOW LOW IS TOO LOW? That relatively high price has helped support the current drilling boom, much of which relies on hydraulic fracturing or “fracking,” as it’s called. (The highest price for West Texas Intermediate crude was $145 in July 2008, but by September of that year it dropped back below $100.) How far would prices have to fall to slow it down? James LeBas, the other former state revenue estimator, says it’s not that much further: “If (energy companies) believe that we’re going to be in the $80 range, then they will probably continue to explore and develop at the current level.” But if the price falls below that magic $80 sweet spot? “Each company will make its own decision but the lower the price goes, more of them will hit their magic number where they will decide to curtail exploration and production,” said LeBas. Jeff Dietert at Simmons & Company Many of the companies operating in the hottest spots for drilling in Texas—the Permian Basin in West Texas, the Barnett Shale in North Texas, and the Eagle Ford shale in South Texas—might be able to do business as usual even if prices dropped into the $70 range, according to Jeff Dietert, co-head of research at Simmons & Company, a Houston-based investment bank for the energy industry. “The cost of a well is going down, the number of days to drill a well is declining as operators get more efficient with these new technologies,” Dietert told StateImpact Texas. Oil prices are affected by the overall world economy, by production decisions made by cartels and by conflicts in foreign, oil-producing countries. In recent days, the trend has been downward. “What’s happened is that we’re over-supplying the market, inventories are building. So that’s recently put some pressure on oil prices and we’re seeing them come down,” said Dietert. Whether prices will continue to fall is anyone’s guess. And no one knows how long the Goldilocks price that has been so good for Texas will last.

#### Saudi Arabia may cut production to keep oil prices high

Brad Plumer, 6/5/2012, “For first time in years, the world is producing more oil than it needs” Washington Post, http://www.washingtonpost.com/blogs/ezra-klein/post/oil-prices-are-collapsing--is-that-a-good-thing/2012/06/05/gJQAYm3zFV\_blog.html

One caveat, though: It’s still entirely possible that oil prices won’t keep falling. Stuart Staniford notes that Saudi Arabia could decide to cut production in the near future. Remember, most OPEC countries need relatively high oil prices to pay for the domestic spending programs they’ve recently put in place to placate protestors. And there’s always the possibility of a surprise plot twist. Negotiations with Iran could break down. Or Europe could suddenly fix its problems

But risks return next week when there's a new batch of U.S. data, and the EU leaders meet at the end of the week on the sovereign debt crisis.

### A2: Prices Going Down

#### The market knew consumption cuts would happen, prices have bottomed out and will go higher by year end

Trefis July 12, 2012, “My 2012 Midyear Outlook for Oil Demand”

Submitted by Investing Daily as part of our contributors program.

West Texas Intermediate (WTI) crude oil prices tumbled 30 percent from their high of $110 per barrel in late February to less than $80 per barrel toward the end of June. Meanwhile, Brent crude oil declined from a 2012 high of more than $128 per barrel to a recent low of less than $90 per barrel.

The drop in oil prices far exceeds the decline in equities: At its June low, the S&P 500 had given up almost 12 percent from its 2012 high. In recent weeks, I ve received a number of emails asking about my outlook for oil prices and what the decline in energy prices means for oil investing. First, lets look at what s driving the recent weakness in oil prices. Investors have grown increasingly concerned that the slowing global economy will erode demand for crude oil. Although EU oil consumption will weaken and China s economic growth has slowed relative to prior years, the recent drop in oil prices already more than reflects these headwinds. Moreover, current prices don t reflect the potential for emerging-market oil consumption to pick up in the second half of the year. Investors also shouldn’t discount the stimulative effect that lower oil prices will have on the US economy and demand. a Source: Energy Information Administration In the first 25 weeks of 2012, US crude and refined products demand has declined by 3.18 percent from year-ago levels. Some of this weakness reflects reduced demand for heating oil during the unseasonably warm 2011-2012 winter. However, other factors are at work: Through the end of April, US gasoline consumption had slipped 1.4 percent year over year, while jet fuel demand was down 0.8 percent. The four-week moving average of US oil and refined-products demand shows a clear break in the steady uptrend in US oil consumption after the Great Recession. As the economy recovered and the credit crisis eased, US oil demand bounced off its 2009 and early 2010 lows but never regained its pre-2007 levels. In fact, the nation consumed less oil in 2011 than a decade earlier. Although the US remains the world s largest oil consumer in absolute terms, the decline in domestic consumption is neither an unforeseen development nor a major driver of oil prices. The International Energy Agency s February Oil Market Report forecast that North American oil demand would decline by 109,000 barrels per day in 2012; the agency subsequently revised this estimate to 194,000 barrels of oil per day still an insignificant volume in a global market that amounts to 90 million barrels of oil per day.

### A2: Libya

#### Multiple political issues check Libya from returning to full production

Business Insider ’11 (“Libya’s Oil Production could Triple in a Year”, Oct 20, 2011, http://articles.businessinsider.com/2011-10-20/markets/30301294\_1\_libyan-crude-oil-industry-libyan-oil)

NEW YORK (AP) — It will still be several months before Libya can export as much oil as it did before it descended into civil war earlier this year. But the killing of Moammar Gadhafi reduces the chance that violence will get in the way as Libya cranks up production again. And **as Libyan crude returns, it could lower the price of oil on the international markets and gasoline at American pumps.¶ The type of crude produced by Libya**, known as light, sweet crude, **is rare.** It is especially valuable because it is easier for refineries to convert into diesel and gasoline. Many refineries can't switch easily to processing other varieties of crude.¶ ¶ **Before the civil war, Libya produced only 2 percent of the world's oil. But even small interruptions in oil production can have a big effect on the price because the balance between supply and demand is delicate.¶ When fears arise that supplies might fall short, traders get nervous, and prices can go up fast.**¶ **The price of oil jumped 35 percent between Feb. 15, when protests started in Benghazi, and April 29, when oil hit almost $114 per barrel, the highest since 2008. Gasoline prices in the U.S. rose from $3.12 before the fighting to a three-year high of $3.98 on May 5.** **High prices, plus** **the prospect that Libyan crude would disappear from the market for a long time, led a group of oil-importing nations to announce the release of 60 million barrels of oil from emergency stocks. That included 30 million from the United States.¶ The price of oil came down because traders figured Libyan oil would return after Gadhafi was ultimately overthrown — but also because of concerns that a worldwide economic slowdown would reduce demand for oil.**¶ By Wednesday, oil had returned to its price before Libya's uprising began. It fell 81 cents Thursday to $85.30 a barrel in New York trading. The average price of a gallon of gas in the U.S. was unchanged at $3.47.¶ The oil market's reaction to Gadhafi's death was muted because efforts to revive the Libyan oil industry have been under way for months under the Libyan transitional government.¶ "It was a foregone conclusion that Gadhafi was finished," said Daniel Yergin, chairman of IHS CERA, an energy research firm, and author of a Pulitzer Prize-winning history of the oil industry.¶ Before the war, Libya, which sits on the biggest oil reserves in Africa, produced about 1.6 million barrels of oil per day. Production collapsed during the war. Libya now produces about 390,000 barrels a day, a Libyan official said earlier this month.¶ Analysts predict the country can produce 600,000 barrels per day by the end of the year and 1.6 million by the second half of next year. By then, oil, depending on where it is traded, could fall $10 to $25 per barrel, says Michael Lynch, president of Strategic Energy & Economic Research.¶ But **getting back to regular oil production could prove difficult for Libya. Its government is still in its infancy. It has no parliament, no constitution and few remaining national institutions.¶ And infighting could spark a second uprising similar to the insurgency in Iraq**, Barclays Capital analyst Helima Croft says.¶ "Certainly, having Gadhafi no longer on the scene takes away one source of instability. We just think **the bigger problem might be the 'game of thrones' between various factions within the rebel ranks**," Croft said.¶ **One major issue is figuring out how to divide oil revenue among more than 100 tribes in the country**, says Frank Verrastro, director of the energy and national security program at the Center for Strategic and International Studies.¶

### Futures: high

#### Middle east tension will keep prices above $90

India First Edition July 19, 2012 Thursday

HYDERABAD, July 19 -- World oil prices hit seven-week high as traders fretted over the impact of simmering geopolitical tensions in the crude oil-rich Middle East. Brent North Sea oil for delivery in September jumped to $107.48 per barrel and New York's light sweet crude for August struck $91.86, matching highs last seen in late May. "Prices have climbed primarily on the back of geopolitical risks," said Commerzbank analyst Carsten Fritsch. "The conflict in Syria, which has already been under way for 16 months, appears to be escalating. "The Iran conflict is also coming into increasingly sharp focus, Israel having blamed Iran for the attack on Israeli tourists in Bulgaria." In late afternoon deals, Brent stood at $107.16, up $2 from Wednesday's closing level, while New York was $1.91 higher at $91.78. Israel accused Iran and Lebanese group Hezbollah of carrying out a deadly attack against Israelis in Bulgaria, setting the stage for new tensions in West Asia. The Israeli Prime Minister, Mr Benjamin Netanyahu, said "all the signs point to Iran," linking Wednesday's blast to a string of attempts to attack Israelis around the world. "Israel will respond forcefully to Iranian terror." Iran responded by saying it strongly condemns "all terrorist acts."

## Price Key Transition

#### Government programs withstanding – price is the key driving force of fuel use and travel habits

Christopher R. Knittel, 2012 reviewed work(s):Source: The Journal of Economic Perspectives, Vol. 26, No. 1 (Winter 2012), pp. 93-118Published by: American Economic Association

It will be interesting to see how the political system reacts if the significantly higher fuel economy standards planned for the next few years begin to bite for leading U.S. car manufacturers. It is worth considering some alternative second- best policies: for example, an open fuel standard that would require vehicles to be able to run on gasoline, ethanol, or methanol; gas guzzler-gas sipper "feebate" programs that mimic CAFE standards; or a vehicle-miles traveled tax. But ultimately, the single biggest influence on whether Americans reduce their consumption of petroleum-based fuels will probably be whether the forces of supply and demand in global markets that have kept oil prices relatively high since about 2005 continue to do so.

#### Prices below $80 inhibit renewable transition

International Business Times, “Despite ongoing turmoil in Middle East, crude oil prices stabilizing” May 30, 2011

<http://www.ibtimes.com/articles/154471/20110530/crude-oil-prices-opec-us-demand-euro-zone.htm>

In an odd twist, over the weekend, **the Saudi Prince** Alwaleed bin Talal told CNN his country **wants oil prices to decline to between $70 and $80 per barrel as an incentive for Western countries to avoid seeking replacement (non-fossil alternative) energy sources**. He admitted that **persistent high oil prices would make alternative/renewable energy that much more attractive to the West.**

### Tek Now

#### Consistent high prices will result in a transition to energy efficiency and tek

Dide Houssin, Director Of Energy Markets And Security At Iea, 2012 The Center For Strategic And International Studies Holds A Discussion On International Energy Agency's Medium-Term Renewable Energy And Natural Gas Market Reports 2012

July 11, 2012, Lexis-Nexis

I don't think so, because the key -- the key point if you look at energy prices is what's happening on the oil price side and fossil -- fossil fuel prices. And if you look at Europe, gas prices are very high, or in Asia. As Anne-Sophie explained, you have still a lot of linkage between the oil prices and gas prices in many parts of the world. So the bottom line is, we think that with the low -- with the pretty stagnant global macroeconomic situation and very high energy price, because this has been the message of the IEA over last week. Even with the drop in oil prices, they remained at around $100 per barrel for Brent at quite high level, if you look at the global macroeconomic situation, and it's a huge burden in terms for -- in pointing -- in pointing countries when the economic situation is not that good. So we still have very high oil prices. So the incentives for doing more in terms of energy efficiency are there, but there are a lot of non-economic barriers and we -- in the next one, the Energy Outlook, there would be a specific chapter on energy efficiencies as the forgotten energy source, and we think there is a good -- there is a good background now with the high oil prices, slow economic growth to encourage more energy efficiency in the future.

#### Turn – low prices make green alternatives

Reyer Gerlagh CESifo Economic Studies, Vol. 57, 1/2011 chair in Environmental Economics at Economics, School of Social Sciences, University of Manchester, now Professor at Tilburg University. Top 40 in various ranking lists in J.C. van Ours and F. Vermeulen, 2007, “Ranking Dutch Economists”, in De Economist 155: 469-487.

In the 21st century, mankind has to solve two problems closely intertwined and both fundamental to economic prosperity. The first problem concerns the secure supply of energy when the era of cheap oil will come to an end. 1¶ The 1973 oil crisis exposed the world's dependence. The interruption was temporary, though, and overall cheap oil has been a cornerstone for worldwide economic growth during the second half of the 20th century. But the oil crisis put exhaustible resources on the map of economic theory and a rich literature has developed. The second problem concerns the containment of global climate change, a phenomenon that is already observed in the rapid melting of glaciers and the Greenland, Antarctic and polar ice-cap. Climate change may destroy vast eco-systems, raise sea levels substantially and alter our world in yet unknown directions. Economists have noted an unexpected interaction between the two problems. When with good intentions policy makers set up green policies to develop energy sources that may substitute for oil in the long run, they may enhance climate change problems, rather than mitigate them Sinn¶ 2008). The argument is intuitive. Oil suppliers, when anticipating the development of an alternative competitive energy source, will bring forward the sales of their resource, and thus increase current emissions, to protect their revenues (Hoel 2008; Strand 2007). This phenomenon is called the green paradox

### Warming

#### High oil prices are key to stop global warming

Steve A. Yetiv, The San Diego Union-Tribune, “America benefits from high oil prices” 2006 <http://www.signonsandiego.com/uniontrib/20060206/news_mz1e6yetiv.html>

In particular, what can high oil prices do that America's energy policy fails to do? First, sooner or later, **high oil prices spur the development of alternative energy resources because they make it more profitable to produce them. The higher prices go, the more** entrepreneurs and **companies around the world work to move us beyond the hazardous petroleum era.** Second, the higher oil prices go, the more likely **automakers will mass-produce more efficient, less pricey vehicles.** That is precisely what we need to shift the current oil-guzzling paradigm. A joint report by the Transportation Research Institute's Office for the Study of Automotive Transportation at the University of Michigan and the Natural Resources Defense Council shows that higher oil prices will hurt America's top automakers by decreasing sales of SUVs and pickup trucks. The report calls on them to make fuel efficient vehicles their top priority to better the country and their bottom line. Most automakers are experimenting with fuel cell vehicles that run on hydrogen rather than oil. They are also selling 2005 hybrid vehicles that run on an internal combustion engine, as do conventional cars, plus an electric motor. Depending on the car, they yield between 10 percent and 50 percent better gas mileage than regular vehicles, and far better mileage than the ubiquitous SUV. But hybrids represent a drop in the market bucket, because automakers have so far made their profits by mass-producing less efficient, money-making vehicles. And fuel cell vehicles aren't expected to reach the market until 2010. **High oil prices are an incentive for making efficient vehicles on a mass, affordable scale, and sooner rather than later.** Third, high **oil prices make consumers less likely to waste gas and more likely to buy hybrids**. In Europe, high gas prices – roughly double that in the United States – have led to mass adoption of hybrids. Investment banking firm Goldman Sachs predicts that gas prices would have to hit $4.30 a gallon in the United States to change the gas-guzzling culture. But it is better to see the impact as relative to price. Fourth, **high oil prices benefit the environment**. Indeed, one study has shown that a broad energy tax on carbon content in fuels would reduce oil use and carbon emissions by over 10 percent. For that matter, **vehicles that run on fuel cells emit only water and heat as waste, and hybrids emit more limited emissions than conventional vehicles. Since carbon emissions cause global warming** – a scientific fact rather than science fiction – **we should tip our hats to high oil prices**, in this respect. Fifth, high oil prices are raising consciousness about the hazards of the oil era. **Ninety-three percent of Americans believe that oil dependence is a serious problem**. Although they still act like oil is an entitlement, **pricey oil may lead them eventually to put pressure on politicians to move toward greater oil independence**, as reflected perhaps in President Bush's speech. Of course, **higher oil prices are painful**. **But**, over time **they can serve the environment, decrease our dependence on Middle East oil**, **especially from countries like Iran which uses oil money to build nuclear capability** and force us to take actions that make us less vulnerable when oil starts to dwindle in the future.

#### Warming causes extinction

Tickell ‘08

(Oliver, Climate Researcher, The Gaurdian, “On a planet 4Chotter, all we can prepare for is extinction”, 8-11,*)*

We need to get prepared for four degrees of global warming, Bob Watson told the Guardian last week. At first sight this looks like wise counsel from the climate science adviser to Defra. But the idea that we could adapt to a 4C rise is absurd and dangerous. Global warming on this scale would be a catastrophe that would mean, in the immortal words that Chief Seattle probably never spoke, "the end of living and the beginning of survival" for humankind. Or perhaps the [beginning of our extinction](http://www.guardian.co.uk/commentisfree/2008/aug/08/kingsnorthclimatecamp.climatechange%22%20%5Ct%20%22_blank). The collapse of the polar ice caps would become inevitable, bringing long-term sea level rises of 70-80 metres. All the world's coastal plains would be lost, complete with ports, cities, transport and industrial infrastructure, and much of the world's most productive farmland. The world's geography would be transformed much as it was at the end of the last ice age, when sea levels rose by about 120 metres to create the Channel, the North Sea and Cardigan Bay out of dry land. Weather would become extreme and unpredictable, with more frequent and severe droughts, floods and hurricanes. The Earth's carrying capacity would be hugely reduced. Billions would undoubtedly die. Watson's call was supported by the government's former chief scientific adviser, Sir David King, who warned that "if we get to a four-degree rise it is quite possible that we would begin to see a runaway increase". This is a remarkable understatement. The climate system is already experiencing significant feedbacks, notably the summer melting of the Arctic sea ice. The more the ice melts, the more sunshine is absorbed by the sea, and the more the Arctic warms. And as the Arctic warms, the release of billions of tonnes of methane – a greenhouse gas 70 times stronger than carbon dioxide over 20 years – captured under melting permafrost is already under way. To see how far this process could go, look 55.5m years to the Palaeocene-Eocene Thermal Maximum, when a global temperature increase of 6C coincided with the release of about 5,000 gigatonnes of carbon into the atmosphere, both as CO2 and as methane from bogs and seabed sediments. Lush subtropical forests grew in polar regions, and sea levels rose to 100m higher than today. It appears that an initial warming pulse triggered other warming processes. Many scientists warn that this historical event may be analogous to the present: the warming caused by human emissions could propel us towards a similar hothouse Earth.

### Module: Biofuels (Military)

#### High oil prices key to the development and commercialization of bio fuels for the military

[Rogers](http://energy.nationaljournal.com/contributors/will-rogers.php) 12

(will, Bacevich Fellow, Center for a New American Security, Energy Experts blog, http://energy.nationaljournal.com/contributors/william-rogers.php*)*

**As petroleum prices climb, biofuels will continue to grow in demand,** **helping develop a market for the still nascent industry by making those fuels cost-competitive with conventional oil. Demand from the U.S. military has already helped significantly** **cut the price of biofuels in just several short years. In 2009,** for example, the U.S. Navy purchased its first batch of biofuel (about 20,055 gallons) at a cost of $424 a gallon. In December 2011, Secretary of the Navy Ray Mabus announced that the U.S. Navy would purchase 450,000 gallons of biofuel at $26 a gallon, a whopping 94 percent in savings compared to its initial purchase. And although $26 a gallon is still expensive when compared to the $3 or $4 a gallon that gasoline prices are hovering around today, biofuels are still in the research and development phase. As the technology matures in 2012 and moves toward commercial scalability, prices will continue to drop. And as oil prices contribute to higher gasoline prices, biofuels will move closer to price parity with petroleum and reinforce demand for alternatives.¶ **Increased interest from the private sector will also help move biofuel development from R&D to commercial deployment. The U.S. Navy is only one customer (albeit a large one), and its demand for biofuel is not enough to develop a robust market to compete with petroleum at today’s prices. But as oil prices rise, interest from the** private sector will spur the kind of demand that will help pull alternative fuels toward **commercial development**. In November 2011, Continental Airlines made history when it tested a 20 percent blend of algae-derived biofuel in a **Boeing 737-800. And Continental Airlines’ parent company, United Continental Holdings Inc., said it would buy 20 million gallons of algae-based biofuel a year, starting as early as 2014. Other carriers have announced similar plans to operate on a biofuel blend, and greater interest from the private sector will help biofuel companies acquire the capital investments they need to scale up development.**¶

## Flood

#### OPEC will flood the market to crush the case

Jerry Taylor and Peter Van Doren, “editor of the quarterly journal Regulation and an expert in the regulation of housing, land, energy, the environment, transportation, and labor, 2006 An Argument against Oil Price Minimums” http://www.cato.org/publications/commentary/argument-against-oil-price-minimums

Then there's OPEC. At present, countries in the cartel are happy to trade market share for price. By restraining production, they allow higher-cost non-OPEC suppliers into the market but gain greater revenues than they would if they produced flat-out. But if some fuel came along that could compete with oil in the marketplace, Persian Gulf producers would have little trouble winning a price war. OPEC production costs are so low that former cartel Secretary General Francisco Parra thinks that OPEC members could make a healthy profit even if oil were selling at $5.50 per barrel on world markets.

#### Cheap oil due to a market flood turns case – increases terrorism and risks Saudi detabilization

MAUGERI in 2003 [Leonardo, Group Senior Vice President for Corporate Strategies and Planning for the Italian energy company ENI, Foreign Affairs, July/August l/n //]

Cheap oil has always been and remains a curse for industrialized countries and is the most elusive enemy of oil security. It constricts the development of expensive energy alternatives and new oil regions. It discourages conservation and perpetuates lax Western consumption habits. Finally, it increases dependence on the Persian Gulf countries with the lowest production costs. Cheap oil is harmful to the producing countries as well. Today less than 25 percent of global production but 65 percent of the world’s proven oil reserves are concentrated in five countries: Saudi Arabia, Iraq, the United Arab Emirates, Kuwait, and Iran. All of the countries, as well as other OPEC members, need decent oil prices; since 1999, they have finally managed a certain degree of internal discipline in order to limit output and regulate prices. This policy leaves few alternatives for the Persian Gulf producers because their economies remain heavily based on oil while their demography has changed dramatically. The population in the Persian Gulf states has doubled in twelve years, with 60 percent today under 21 years of age. This demographic explosion has created expectations and frustrations to which stagnant, single-industry economies cannot give a credible answer. Only sustained oil revenues allow these countries to temper social unrest by preserving huge social assistance programs. Gulf countries’ oil revenues are already much lower than they were 20 years ago, and cheap oil prices mean a dramatic dip in per capita oil income. Therefore, frustration and violent revolt may erupt whenever the minimum living standards are endangered by decreasing oil prices. Today’s Islamic fundamentalism, like yesterday’s pan-Arab socialism, finds fertile ground among hopeless people. Beginning in 1962, Saudi Arabia financed the spread of conservative Sunni teaching worldwide to counterbalance the enormous appeal of pan-Arab socialism. Initially, the United States was supportive of this policy, but it progressively abandoned its support during the 1990s. Saudi Arabia dared not follow suit for fear of isolating itself within the Arab world and calling into question its very survival. The Saudi error has been the illusion that it can control and shape the political evolution of radical movements by financing them. Radical movements do pose risks, but they are limited. Division within Arab and Islamic societies weigh against any single fundamentalist leader’s emerging. The only centripetal force in those societies is a common distaste for the rule imposed by external powers. But for Arab countries it is difficult to translate creeping political rivalries into competitive oil policies. If a major producer, such as Iraq, were to open its oil fields to foreign investment again, its neighbors would be obliged to react so as not to lose future market share and revenues. In short, they would be compelled to overproduce and accept plummeting oil prices. That is the challenge that Iraq could pose if unregulated foreign investments flowed in to rebuild its oil industry. While Iraq is being reconstructed, care must be taken not to deconstruct the oil market again by sparking fierce competition among major producers. A radical fundamentalist regime might be interested in launching such an output and price war to destabilize vested interests in the region and throughout the world. Such a regime could impose on its people the hardships and privation of lower prices for the sake of a final victory over the enemies it deems unholy. This type of scenario could devastate Saudi Arabia. It could also curb U.S. and Russian oil production, endanger Caspian Basin prospects, and halt new exploration and technology development. At the same time, it would endanger many investments that the international oil companies have already made worldwide. In short, within five to seven years, the world would be far more dependent on the Persian Gulf than it is today with no immediate way out.—an outcome that would seem like a real victory for a radical regime. But today the very same outcome could also be caused by blind Western policies designed to undermine OPEC and introduce competition among its members.

#### Saudi’s will push prices down to reap rewards

Business Monitor Online August 1, 2012 Wednesday**, “**No Sign Of Slowing Down” Lexis-Nexis

However, other producers have been more than eager to bank on the gains to be reaped from Iranian losses. Saudi Arabia has taken the lead by cranking up its production to 10.15mn b/d in June 2012, compared to an average of 9.04mn b/d in 2011. Growing crude output elsewhere in the Middle East - especially in Iraq - has more than compensated for Iranian losses. Moreover, the UAE and Saudi Arabia have been some of the leading voices resisting pressure to reduce output to keep oil prices high. Unless someone takes the first move to cut production, a reluctance to lose out on additional oil income will keep oil production steadily high in the region.

# Links

## Demand Key

#### Demand determines OPECs reaction – lower demand results in overproduction competition leading to a price glut

Michael Levi, David Rubenstein Senior Fellow of energy and the environment at the council on foreign relations, July 1, 2012 Sunday, Michael Levi: Is the American energy boom overblown?, St. Paul Pioneer Press (Minnesota), Lexis

Don't bet on it.

Some people claim that unleashing U.S. oil and gas resources would slash the price of crude. Who can forget the cries of "Drill, Baby, Drill!" that saturated airwaves during the 2008 presidential campaign? Others insist that, because oil is priced on a global market, increased U.S. output wouldn't move the needle. Even Douglas Holtz-Eakin, the top economist for John McCain's 2008 presidential campaign, has written, "Domestic action to increase production will not lower gas prices set on a global market."

The precise truth lies somewhere in between. If U.S. producers were able to massively ramp up output, the ultimate impact would mostly boil down to one big question: How would other big oil producers (mainly the Saudis and the rest of OPEC) respond to a surge in U.S. supplies?

To stop prices from falling, they could cut back their output in response to new U.S. production, much as they've tried to in the past. That's essentially what happens in the much-cited projections by the Energy Information Administration. In one recent exercise, for example, it looked at what would happen to gasoline prices if U.S. oil production grew by about a million barrels a day. The net impact was a mere 4-cents-a-gallon fall. Why? All but a sliver of the increase in U.S. output was matched by cutbacks in the Middle East, leaving oil prices barely changed.

Predicting OPEC's behavior, though, is notoriously difficult. No one country wants to bear the burden of selling less oil. In good times -- when demand is high and supplies from outside OPEC are weak -- the market is big enough for everyone to have a piece. That's what happened in the early 1970s: Rising demand for crude combined with declining supply in the United States to give OPEC unusual power. The result was a decade of historically high prices.

In leaner times, though, when demand is less robust and supplies from outside OPEC are strong, restraint can be difficult. Left with a smaller market to divide among themselves, OPEC producers can end up battling for market share, ultimately pumping far more crude than expected. This is in part what happened in the 1980s: High prices spurred new supplies and restrained demand, making coordinated OPEC action to prop up prices almost impossible.

Which pattern will we see in the face of rising U.S. supplies, combined with new production from Brazil, Canada, Iraq, and beyond? Given the growing demand for oil in China, India, and elsewhere, the safest bet is on continued high prices, though slightly lower ones than would prevail without the new supplies. As a senior OPEC official told me this year, "There is plenty of room for everyone." Yet new crude -- particularly if it collides with strong restraints on demand -- could change the equation. It would be foolish to rule out a crash.

## HSR

**High speed rail depletes fossil fuel and oil dependence**

**CAP ‘10** (Center for American Progress, “ It's Easy Being Green: Rail Transport Picks Up Speed” Center for American Progress, March 24th 2010, <http://www.americanprogress.org/issues/2010/03/ebg_032310.html>)

The United States uses 25 percent of the entire world’s oil supply despite having only 5 percent of the world’s population, and sprawling communities force people to drive even short distances. We need alternate modes of transportation to kick this oil dependence, and one alternative is high-speed rail, which offers tantalizing environmental and economic benefits. President Barack Obama, Vice President Joseph Biden, and Transportation Secretary Ray LaHood announced a strategic plan for high-speed rail last year that includes $8 billion in the American Recovery and Reinvestment Act and $1 billion a year for five years in the federal budget. Their goal is to jumpstart a potential world-class rail system in the United States. These economic incentives for a mass U.S. network of high-speed rail trains, or HSR, along existing transportation corridors could create much-needed jobs, decrease our dependence on foreign oil and fossil fuels, and significantly reduce greenhouse gas emissions.

**High speed rail decreases US oil dependence**

**Mesnikoff ’10** - Green Transportation campaign director for the Sierra Club (Ann, “ High-Speed Rail Can Be Profitable, Create Jobs” AlterNet, March 15th, <http://blogs.alternet.org/annmesnikoff/2011/03/15/high-speed-rail-can-be-profitable-create-jobs/>)

Committee head Rep. John Mica held this hearing in his home state of Florida. Now, Florida is a particularly good state to hear about the need for high-speed rail as a transportation choice since Governor Rick Scott rejected federal funds last month for such a project in the Sunshine State. It is unfortunate that officials are choosing Big Oil over solutions that can end our oil dependence. And now we’ve got new research showing that a high-speed rail line from Tampa to Orlando “could be operated with a healthy profit.” The study shows that “the line connecting Tampa to Orlando would have had a $10.2 million operating surplus in 2015, its first year of operation. The study showed the line would have had a $28.6 million surplus in its 10th year.” The Florida high-speed rail plan would have served 3.3 million riders in its first year of operation, but now those riders will be stuck in traffic burning gasoline – polluting the air, increasing our addiction to oil while sending dollars overseas to pay for oil. We’ve been standing with concerned citizens at several of these field hearings nationwide from Ohio, California and Tennessee and, of course, in Orlando, Florida. While the field hearings didn’t necessarily include all the right voices (as two of our activists in Tennessee noted in these great OpEds, Chairman Mica did support high speed rail in Florida. And we made sure to let him know there are supporters of good transit across the country out there: We turned in close to 1,000 comments from citizens, all calling for a transportation bill that will increase transportation choices and help end our dependence on oil. We’re also making our voices heard about Gov. Scott’s rail rejection: Environmental groups believe that, given the toll that roads take on natural resources, they’re counting on Scott to endorse SunRail. “We need those choices. Gov. Scott’s actions deny us choices in transportation,” Sierra Club representative Phil Compton said. But despite Gov. Scott’s views and the loss of rail, some Florida cities are forging ahead with better transit plans. Plus, it looks like some states want Florida’s rejected rail money for their own projects that will reduce our oil dependence and create jobs. While we know high-speed rail is not the whole solution to transportation or $4 gallon gas, we do know it is part of a plan that moves our country beyond oil.

## Keystone

#### Keystone will drop high oil prices

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

In any case, the truly important impact of the U.S. Shale/Tight Oil Revolution is of different nature. Specifically, it could reflect the following:

• An advantage for U.S. GDP, employment, and balance of trade. Given the relative infancy of the boom, there are no extensive research studies or analyses of its potential contribution to the overall performance of the U.S. economy by 2020. So far, the only estimate of the broader effects of the combined shale oil and gas revolution on the United States economy has been made by Citigroup, according to which “the cumulative impact of new production and reduced consumption could increase real U.S. gross domestic product (GDP) by 2% to 3.3%, or by $370 billion to $624 billion, by 2020.” As to the labor market, Citigroup estimated “that as many as 3.6 million new jobs may be created on net by 2020. Some 600,000 jobs would be in the oil and gas extraction sector, another 1.1 million jobs in related industrial and manufacturing activity, and the remainder in ancillary job sectors.” Finally, the shale hydrocarbon revolution may substantially affect the U.S. current account deficit, which, “currently running at negative 3% of GDP, may be reduced by anywhere from 1.2% of GDP to 2.4% of GDP.”58 In the absence of other estimates, these bold figures may illustrate the magnitude of the U.S. shale hydrocarbon revolution.

• A pillar of the overall “liquidity” of the future global oil market, helping lo lower oil prices. Without U.S. shale oils, as well as other unconventional oils from Canada, Venezuela, and Brazil, the consumers of the world would continue to experience phases of tight supply and high prices, especially during geopolitical crises.

## Inland Waterways

#### Waterways key to oil transports

Pittsburgh Post-Gazette, ’12 [Len Boselovic, “The Consol Energy towboat Aliquippa takes two barges of sand up the Monongahela River to Monessen,” March 18, 2012,

http://old.post-gazette.com/pg/12078/ 1217742-113.stm]

While coal accounts for the majority of traffic on Pittsburgh's rivers, barges also move gravel, sand and limestone used in construction, fuel oil, fertilizer and other goods.

**Expanding inland waterways drastically reduces oil dependence**

**MARAD No date** (US Maritime Administration, “America’s Marine Highway Program” http://www.marad.dot.gov/documents/Marine\_Highway\_Program\_brochure\_(final).pdf)

America’s Marine Highways together consist of more than 25,000 miles of coastal, inland, and intracoastal waterways. It moves only about 2 percent of our domestic freight and is currently underutilized. Expanding the use of this valuable resource will help dramatically reduce landside congestion and offer significant opportunities to help reduce emissions, decrease oil dependence, and find alternatives to maintenance and construction costs of highway and railroad infrastructure.

## NIB

**NIB cuts oil consumption**

**Lehner ‘10** – Executive Director of the Natural Resources Defense Council (Peter, “Battling Our Oil Dependence Once and For All: A Blueprint” Bello Velo, June 20th, <http://bellovelo.blogspot.com/2010/06/battling-our-oil-dependence-once-and.html>)

Our blueprint, the Route to Reform, prioritizes energy efficiency and security. It includes programs to complete the transportation system by building networks of intercity rail and buses, green freight and ports projects, transit projects in cities and towns, and nationally significant projects. And it makes a strong case for boosting national investments in transit to $500 billion over six years using a variety of financing tools such as a National Infrastructure Bank as proposed by President Obama. There’s real potential to save oil by adopting such policies. Analyses have found that by following our recommendations we could cut oil consumption by more than a million barrels a day by 2030. To sum up, we must use every tool at our disposal given the massive scale of the challenge. This means focusing on reforming our outdated, wasteful transportation law. I look forward to working with Congress and the President on this goal, for the sake of the Gulf, the planet, and future generations.

#### More efficient transportation sector will save 1.9 billion gallons of fuel

Treasury and the Council of Economic Advisers 2012, “A New Economic Analysis Of Infrastructure Investment” Department Of The Treasury With The Council Of Economic Advisers. MARCH 23, 2012 = http://www.treasury.gov/press-center/news/Pages/03232012-infrastructure.aspx

A more efficient transportation infrastructure system will reduce our dependence on oil, saving families time and money. Traffic congestion on our roads results in 1.9 billion gallons of gas wasted per year, and costs drivers over $100 billion in wasted fuel and lost time. More efficient air traffic control systems would save three billion gallons of jet fuel a year, translating into lower costs for consumers. Finally, new research indicates that Americans who were able to live in “location efficient” housing were able to save $200 per month in lower costs, including paying less at the pump, over the past decade.

## Mass Transit

**Mass transit expansion saves 45 million barrels**

**Reagan 9** (Brad, “America@$100/Barrel: How Long Will the Oil Last?” Popular Mechanics, 10/1, [http://www.popularmechanics.com/science/environment/4254875)//mat](http://www.popularmechanics.com/science/environment/4254875%29//mat)

EXTENDING SUPPLY Moving Target Since the oil age began in 1859, the world's producers have pumped approximately 1 trillion barrels from the earth. At current rates of production, they could pump the second trillion by 2030. A hotly debated question: When will our global exploitation of this nonrenewable resource reach the pinnacle of production, known as peak oil? The most pessimistic pundits, such as Kenneth Deffeyes, professor emeritus of geosciences at Princeton University, speculate that we've already peaked, with social and political upheavals soon to follow. "By 2025," he has written, "we're going to be back in the Stone Age." But energy market analysts such as Michael Lynch, president of Strategic Energy & Economic Research in Amherst, Mass., believe that pessimists overlook the law of supply and demand: As cheap supplies dwindle, prices start to rise. Higher prices reduce demand by forcing consumers to use less. They also spur efforts to develop previously uneconomical energy sources. These market forces, optimists say, mean oil won't peak for at least another 20 years and that our economy will have time to adjust. This graph reflects a centrist position. Based on data compiled by the International Energy Agency, a consortium of experts from 27 countries, it projects continued increases in the production of both natural gas and oil. -- D.C. Moving Beyond Fossil Fuels Our total energy needs are dictated not only by supply, but also by demand. Every barrel of oil saved through conservation or the use of alternative sources is just as valuable as a barrel pulled from the earth. Pioneering conservationist Amory Lovins coined the term "negabarrels" to refer to the savings that can be reaped by making buildings and vehicles more efficient. Corn ethanol is likely not a long-term solution: If all the corn in the U.S. were converted to ethanol, it would provide only 6 percent of the nation's energy needs. Cellulosic ethanol, though, can be produced from virtually any carbon-based stock, including wood and solid waste. At the recent Detroit auto show, General Motors announced a joint venture with cellulosic-ethanol startup Coskata. In December, Silicon Valley startup Nanosolar introduced solar panels that can produce electricity for around $1 per watt--less than the cost of power from coal-fired plants. Then there are two old standbys: nuclear power and natural gas. Nuclear power is a cost-efficient and nearly carbon-free energy source but it comes with environmental concerns that since the 1970s have handcuffed plans for any new construction. Thanks to recent incentives, the Nuclear Regulatory Commission expects to take applications for 32 new reactors by 2010. Natural gas is a clean fuel primarily produced domestically; horizontal drilling is tapping hard-to-reach but vast deposits like the Barnett Shale surrounding Fort Worth, Texas. These new supplies could spur utilities to rely more on gas to generate electricity. By 2017, though, oil and gas are still expected to make up 60 percent of the American energy portfolio, says Bob Fryklund of the Houston consulting firm IHS. In the end, the real question shouldn't be how long will the oil last, but how long will the energy last? With more efficient vehicles, alt fuels and cleaner electric power all coming on line over the next few years, oil may well become a smaller part of the total energy pie. In fact, some analysts predict that today's high prices will spur so much progress in conservation and alternative sources (not to mention new oil exploration) that oil prices could actually fall dramatically. That sounds like a problem most people could live with. Oil Alternatives Breaking our fossil fuel dependency will require plugging into the grid instead of pulling up to the pump. Passenger vehicles chug 40 percent of the oil Americans use, but change may be coming: Chevy promises the Volt in 2010, and numerous plug-in concept cars--like the electric Aptera--debuted this year. Meanwhile, inexpensive electricity could also eliminate oil-based heating--and nearly half of the natural gas consumption in electrical production and residential heating. Here are the pros and cons of some leading energy options. -- D.C. Wind Energy + Wind farms will generate more than 1 percent of U.S. electricity this year. The only reason projections aren't higher? The industry grew 45 percent last year and now it's running out of turbines. The American Wind Energy Association speculates that this barely tapped resource could provide 20 percent of U.S. power by 2020. - That will only happen if the money is right: Congress approved a 2-cent-per-kilowatt-hour federal tax credit for wind installations in 2005, but the credit is set to expire at the end of this year. In 2004, the last time the subsidy lapsed, construction of new installations fell 77 percent. Solar Energy + The U.S. solar industry grew nearly 60 percent last year--but still ranks below the wind sector. Google and Wal-Mart made headlines with workplace installations, and residential use continues to grow. The industry hopes solar can supply 200 gigawatt-hours per year by 2030--enough to power 20,000 households. - Money remains the issue here, too. It can cost $25,000 to retrofit a home with a basic 3-kilowatt solar system, and while prices for panels have dropped in the past 30 years, they'll have to keep coming down to meet those industry goals. Ethanol Production + This biofuel may become a crucial bridge to electric cars, and engineers at Coskata, a startup company in Warrenville, Ill., say they can create ethanol for less than $1 per gallon. The company hopes its first commercial plant will produce 100 million gal. of ethanol per year by 2011. - Coskata engineers claim that each unit of energy input generates 7.7 times as much in output, so they may have solved ethanol's sluggish energy balance issue. Still, one major hurdle remains: Fewer than 1 percent of the nation's gas stations are equipped to dispense ethanol. The Case For Conservation Given the technical challenges and expense of finding new sources of petroleum, many experts think conservation and efficiency hold tremendous potential for reducing dependence on foreign energy supplies while boosting productivity and prosperity at home. Here are the most promising measures. -- D.C. Better Mileage | 1 Billion Barrels Saved Per Year From 1975 to 2000, American cars cut their fuel use by the equivalent of 2.8 million barrels of oil per day, spurred largely by Corporate Average Fuel Economy (CAFE) laws. Then progress stalled. December's energy law will raise CAFE standards to 35 mpg by 2020, but pushing them to 40 mpg would cut oil demand by 1 billion barrels per year, roughly our current imports from Saudi Arabia, Iraq and Venezuela combined. Improved Mass Transit | 45 Million Barrels Saved Per Year Public transportation ridership has risen 25 percent since 1995. The savings if one-third more people rode mass transit: 45 million barrels per year.

# High Price Good Nations

## Canada

#### Low oil prices undercuts Canadian growth

The Toronto Star July 19, 2012 Thursday, Lexis **“**Cheap oil hurts economy, Carney says;Bank of Canada lowers growth forecast in wake of declining oil prices”SECTION: BUSINESS; Pg. B4

Consumers like paying less at the gas pump, but cheaper oil is bad for the overall Canadian economy, Bank of Canada governor Mark Carney says. Declining oil prices, brought on by weakening global demand, is a key reason the central bank lowered its forecast for Canada's future economic growth, Carney said Wednesday. "Certainly, as consumers, we appreciate paying less for gasoline," Carney told a news conference in Ottawa after issuing the bank's quarterly monetary policy report. "But on the whole, what's the net impact of lower oil prices on Canada? It's negative." Given Canada's growing dependence on oil as a source of wealth, Carney said lower oil prices hurt investment, government revenues and incomes across the country.That insight - along with a prediction record household debt levels will worsen before they get better - was among the few new pieces of information in a report that confirmed what the bank had said a day earlier during its rate-setting announcement. Household debt levels are expected to rise in the short term, despite tighter restrictions on mortgages, as a recent bout of home buying results in another round of borrowing, the central bank said. Citing a worsening outlook for the global economy, but relatively strong domestic performance, Carney said the bank would hold its trend-setting interest rate to 1 per cent until September. It also stuck with its previous prediction that "some withdrawal of the present considerable monetary policy stimulus may become appropriate." In other words, it believes Canada's economy is unlikely to worsen assuming the debt crisis in the eurozone remains "contained."

## Saudi Arabia/ME

#### Low oil prices are bad and lead to political instability.

Gail Tverberg, July 6, 2012, “Why Lower Oil Price Is Actually Bad” Newshttp://www.econmatters.com/2012/07/why-lower-oil-price-is-actually-bad.html

Oil prices make a difference in a company’s willingness to drill new wells. For example, oil sands production in Canada is quoted as being not economic below $80 barrel, and the West Texas Intermediate price is below that level today. In most instances, existing production will be continued, but new production will be stopped. There are quite a few other types of oil extraction elsewhere (for example, arctic extraction, new very small fields, very deep oil wells, steam extraction outside Canada) that may not be economic at lower prices. Saudi Arabia makes frequent statements about offering its production to keep prices down, but if a person looks at production patterns in the past few years, they have been highest when oil prices have been highest. Production has dropped as oil prices drop. So a rational person might conclude that oil wells which cannot be operated continuously (of which there are some in Saudi Arabia) tend to be operated when prices are highest, and turned off when prices are lower, thus maximizing profits. As oil prices drop this time around, we can expect Saudi Arabia and others to find excuses to save production until prices are higher. Countries exporting oil depend on the revenue from the sale of oil, plus taxes on this revenue, to help support country budgets. As oil prices drop, governments find themselves with less money to fund promised public welfare programs. This dynamic can cause lower oil prices to lead to political instability in some oil exporting nations. Thus, any drop in oil prices tends to be self-correcting, but not until oil production drops, prices of other commodities drop, and many workers have been laid off from work. We saw in 2008-2009 that this kind of recession can be very disruptive.

#### High oil prices are good. They calm Saudi citizens, combat youth unemployment, and build government housing.

Glen Carey, February 23, 2012, Business Week Global Economics http://www.businessweek.com/articles/2012-02-23/the-saudis-need-those-high-oil-prices

The world last year watched to see if Saudi Arabia would suffer the same instability that swept away other regimes in the Middle East. The question now is whether the world’s largest oil supplier needs to raise prices to sustain ramped-up spending intended to calm its citizens. Higher prices would be bad news for Western governments, which need affordable oil to nurture their economic recoveries. The Saudis rarely spell out exactly what they are thinking on the topic, but there are signs their strategy has changed, and they are increasingly willing to raise prices. Still, they seem not inclined to let prices go sky-high. A year ago Saudi oil minister Ali Al-Naimi said oil at $70 to $80 a barrel was fair. Then on Nov. 21, Al-Naimi said he was “very happy” with current crude prices; on that day oil traded close to $98 a barrel. Prices are now around $106 a barrel. The evolving price targets have everything to do with the Saudis’ “budget needs” in response to the Arab Spring, says Robin Mills, an analyst at Manaar Energy Consulting in Dubai. In February 2011, King Abdullah returned home from medical treatment in the U.S. to announce a spending plan that would quiet the restive parts of the Saudi population. By the end of 2011’s first quarter the kingdom had allocated $130 billion in additional spending to build homes and combat youth unemployment. Government spending increased 28 percent last year to 804 billion riyals ($214 billion), while government revenue surged 51 percent, to 1.1 trillion riyals, according to Ministry of Finance Data.

#### Middle East instability causes nuclear war

**Steinbach 2**(John, DC Iraq Coalition, March, “Israeli Weapons of Mass Destruction: a Threat to Peace”, http://globalresearch.ca/articles/STE203A.html)

Meanwhile, **the existence of** **an arsenal of mass destruction in such an unstable region** in turn **has serious implications for** future arms control and disarmament negotiations, and even **the threat of nuclear war**. Seymour Hersh warns, **"Should war break out in the Middle East again**,... or should any Arab nation fire missiles against Israel, as the Iraqis did, **a nuclear escalation,** once unthinkable except as a last resort**, would now be a strong probability**."(41) and Ezar Weissman, Israel's current President said "**The nuclear issue is gaining momentum**(and the) next war will not be conventional."(42**) Russia** and before it the Soviet Union **has long been a major**(if not the major) **target of Israeli nukes.** It is widely reported that the principal purpose of Jonathan Pollard's spying for Israel was to furnish satellite images of Soviet targets and other super sensitive data relating to U.S. nuclear targeting strategy. (43) (Since launching its own satellite in 1988, Israel no longer needs U.S. spy secrets.) **Israeli nukes aimed at the Russian heartland seriously complicate disarmament and arms control negotiations** and, at the very least, **the** unilateral **possession of nuclear weapons** by Israel is enormously destabilizing, and **dramatically lowers the threshold for their actual use, if not for all out nuclear war**. In the words of Mark Gaffney, "... if the familar pattern(Israel refining its weapons of mass destruction with U.S. complicity) is not reversed soon- for whatever reason- **the deepening Middle East conflict could trigger a world conflagration**." (44)

### Market Reform Scenario

#### Low oil prices block foreign capital in Saudi Arabia

The National July 16, 2012 Monday**, “**Mixed opinions over Saudi market reform”

Hopes of the Saudi stock market opening to foreign investors this year are fading fast. Waseem Obaidi / Bloomberg News

As Saudi Arabian stocks soared to new highs in April, speculation mounted that the government would finally throw the doors open to foreign capital. As quickly as the rally surged, however, it faltered. This month, the Tadawul All-Share Index, long the darling of the Middle East's equity market landscape, hovers around the upper-6,000s mark, with the 7,930.58 high recorded on April 3 a distant memory. There is yet to be any solid news on a policy change over stock-exchange reform. The bulls - who in the spring were hinting the Tadawul could hit 10,000 - could well have bucked too soon. "We thought that the rally was unsustainable," says Said Hirsh, an analyst at Capital Economics in London. "It was fuelled by speculation on the part of individual investors, and with geopolitical risks in the region still high and oil prices likely to fall this year, Saudi stocks could quickly lose their appeal." Oil prices are key, says Mr Hirsh, in light of the weighting of the petrochemicals sector on the Saudi exchange where it accounts for some 40 per cent. Saudi Basic Industries Corporation (Sabic) alone accounts for 11 per cent. Capital Economics estimates oil prices will drop to below US$85 a barrel by 2014, hitting Saudi company earnings. Meanwhile, Saudi banks, the second-biggest weighting on the exchange (30 per cent) are heavily linked to government and consumer spending, which is also reliant on oil prices, Mr Hirsh says. Hopes of the Saudi market opening to foreign investors this year, he adds, are fading fast, paving the way for more volatility as retail investors - which account for about 90 per cent of trades on the Tadawul - respond. But not all analysts are so pessimistic. Saud Masud, the chief executive at SM Advisory Group,says that while oil price fluctuations and their effects on some sectors may be near-term headwinds, "I believe there is more upside potential." Peter Gotke, the vice president at BNY Mellon, also urges perspective. While the spring rally has faded, he says, the Saudi exchange is still performing well in comparison to other Arabian Gulf and global markets. "Tadawul is up over 6 per cent thus far this year - relative to global bourses, this is strong, and relative to most regional exchanges [bar Egypt and Dubai] this is strong. There may well be a pause but this is not unusual over the summer and Ramadan months," he says. Meanwhile, Sleiman Aboulhosn, the vice president and assistant fund manager at Al Masah Capital, disputes that a fall in oil prices - even as low as Capital Economic's estimates - will have an adverse effect on either company results or the wider Saudi economy. The annual budget, he points out, assumes an average oil price of US$85 a barrel, significantly lower than the $100 a barrel expected for the year ahead. "I believe the government's spending plans will remain intact and may, in fact, be revised upward in case oil prices recover. This means that the real economy will continue to benefit from government expenditure, banks will continue to grow their books - both loans and deposits - and consumer stocks will continue to benefit as the oil wealth is spread around," Mr Aboulhosn says. Moreover, companiessuch as Sabic - and its subsidiaries including the ethylene producer Yansab - are reporting robust demand from emerging economies such as China, says Mr Aboulhosn. If that demand remains strong, the Saudi market will be a direct beneficiary. "The petrochemicals sector buys its feedstock at a deep discount compared to international prices, which translates in wide margins in the sector. This sector will make money even if oil prices go to $50," says Sebastien Henin, an analyst at TNI in Abu Dhabi. But Capital Economics' Mr Hirsh remains bearish. There is too much downside risk for the Saudi market to recreate its spring rally, and with foreign investment regulation unlikely to be liberalised any time soon, there is not a lot for Saudi investors to get excited about, he says. "Saudi corporate earnings could be hit by a slowdown in global economic growth and demand. This will impact on export-orientated sectors such as petrochemicals more than others but, given their size on the index and importance for the economy as a whole, the overall performance of the stock market could suffer. "The bigger picture is one of uncertainty, which will increase downside risks to the stock market," he adds.

## Nigeria

#### Nigeria is relying on above $72 barrel oil to stay afloat

Africa News, “Trouble Looms If Oil Price Crashes, Says Sanusi,” April 16, 2012

Governor of the Central Bank of Nigeria, Sanusi Lamido Sanusi has said a sharp fall in oil prices could spell big trouble for Nigeria. Speaking in New York, United States of America, at the weekend, Sanusi said there would be a very bad day and a lot of gnashing of teeth, if the oil price crashes and we haven't saved any thing. 'Our major concern is a major decline in the price of oil or (domestic) output would lead to a massive depreciation of the currency, a collapse in reserves and a huge growth in deficits and some of the states outside of the oil-producing region might actually find themselves in a situation where they are not able to pay salaries,' he said in an interview with Reuters. Sanusi noted: 'I am trained to think in terms of "what if" and that's the mindset I bring to my job. What happens if oil prices go to $50 a barrel? It's happened before.' Nigeria remains dependent on oil production, which accounts for about 80 per cent of government revenues. Asked how low oil prices would need to fall before they pose a risk to Nigeria, Sanusi said a decline to around $85 or $90 a barrel, from around $120 now, could lead to a shortfall in projected revenues and higher budget deficits, if Nigeria's oil output does not increase. Sanusi said the CBN was comfortable with its monetary policy stance, having hiked interest rates sharply last year, 'but that could change if the government breaks its new 2012 budget.' The budget includes an assumed average oil price of $72 a barrel, any earnings over which are saved into the country's excess crude account. That is $2 more than the level recommended by the CBN, but the difference did not translate into a major increase in the planned level of spending, Sanusi noted, adding: 'So I don't think the headline numbers alone would justify a change in monetary stance from where we are today.' The CBN implemented a string of rate hikes in 2011 that pushed the benchmark-borrowing rate to 12 per cent. 'We front-loaded most of the tightening. We met seven times last year and tightened six times out of seven.' A surprise dip in inflation seen in February from January's level might continue until about April before an up-tick starting in April or May and price growth could peak at around 14.5 per cent in the third quarter before slowing to single digits in late 2013, said the CBN governor. 'We've done most of the work ahead of the fuel subsidy removal. Now it's about waiting to see that tightening moving through the system which is what we're seeing.' Sanusi also said he expected the recent stability of the naira currency to continue.

## Russia

#### **Medium term reductions will undercut Russia’s budget stability**

OGN July 9, 2012, “Crude price slide highlights risks to Putin's Russia” Oil and Gas News, LN

Falling oil prices could trigger a prolonged slump in Russia that would lay bare the growing fiscal risks, threatening President Vladimir Putin's election promise to increase wages and fanning public discontent.

The world's largest oil producer is well-placed in the short run to withstand sliding prices, thanks to sizeable cash reserves and a flexible rouble. And Putin, who returned to the Kremlin after March's election, is still widely popular.

But the oil price has fallen by over $30 in the last three months, to close to $90 per barrel, and may fall further, narrowing his room for budgetary manoeuvre just as mass protests have underscored dissatisfaction with the government.

"This is not the best start for the new government," says Peter Westin, chief strategist Aton brokerage in Moscow.

"If the oil price is temporarily at these levels, or even lower, it's not a huge problem. The issue is whether it stays there."

Oil and gas taxes account for around half of revenues raised by the federal budget, which Putin, as prime minister, used to boost public sector pay and pensions as a way of overcoming the 2009 economic slump.

Putin, who has taken a more populist approach to dealing with his declining popularity, promised even more public sector pay rises as part of his election campaign.

While that would cushion the immediate blow of any slowdown, running down the fiscal reserves to maintain high social spending would only increase Russia's long-term vulnerability to yet another oil price shock.

"In the short term they can sustain a very low oil price, but they need to address the structural problems in health, education and pensions," says Ivan Tchakarov, chief Russia economist at Renaissance Capital.

"This is not a sustainable fiscal policy, there's no question about it." The last time oil prices fell so precipitously, in 2009, Russia's economy slumped by a dramatic 8 per cent. Collapsing oil was also a catalyst for Russia's 1998 economic crisis that ended in devaluation and default.

Putin, in his annual statement on the budget, acknowledges that Russia's reliance on energy prices was one of its biggest policy headaches.

"The Russian budgetary system is highly dependent on the situation on world commodity markets," he says. "This limits the opportunities for budget manoeuvre."

For now, Finance Minister Anton Siluanov has earmarked $6 billion that could be spent in 2012 from a budget rainy-day fund should a deteriorating global economy drag on growth in Russia.

"We hope we don't have to make use of these measures, because the steps being taken by the government and central bank are sufficient," Siluanov says.

He trimmed his 2013 budget deficit forecast to 1.5 percent of gross domestic product, assuming an average oil price of $97 per barrel. The fiscal plan will help keep the national debt, now around 10 percent of GDP, manageably low.

Analysts say the impact on Russia of lower oil prices may be milder than during previous falls.

#### Putin needs high oil prices to meet campaign promises

Steven Pifer Senior Fellow, Center on the United States and Europe The Brookings Institution CQ Congressional Testimony March 21, 2012 Wednesday

Third, Mr. Putin faces tough issues at home, both economically and politically. The Russian economy and government revenues remain overly dependent on exports of oil and natural gas. The Russian state budget remains pegged to the price of oil. While Mr. Medvedev called for economic modernization and diversification, there are few signs of progress or of a realistic plan to achieve those aims. Corruption remains rampant. The lack of confidence in the economy is reflected in the fact that Russia experienced capital outflow of $84 billion last year. And Mr. Putin made a striking number of electoral promises, including higher salaries, rising pensions and greater defense spending, that will need to be funded. While sustained high oil prices could allow him to avoid tough calls, economic questions could face him with a major challenge.

#### Key to the Russian economy

Kramer ‘8 — writer and reporter for the New York Times based in Moscow (Andrew, May 11, 2008, “As Gazprom Goes, So Goes Russia” http://www.nytimes.com/2008/05/11/business/worldbusiness/11gaz.html?pagewanted=1)

It’s hard to overemphasize Gazprom’s role in the Russian economy. It’s a sprawling company that raked in $91 billion last year; it employs 432,000 people, pays taxes equal to 20 percent of the Russian budget and has subsidiaries in industries as disparate as farming and aviation. The company is a major supplier of natural gas to Europe, and it is becoming an important source of gas to fast-growing Asian markets like China and South Korea. In 2005, at the urging of the Kremlin, it bought Russia’s fifth-largest oil company from the tycoon Roman A. Abramovich. If crude oil and natural gas are considered together, Gazprom’s combined daily production of energy is greater than that of Saudi Arabia.

#### Russian economic collapse causes global nuclear war

Steven **David**, January/February 19**99;** Professor of International Relations and Associate Dean of Academic Affairs at the Johns Hopkins University, FOREIGN AFFAIRS, , http://www.foreignaffairs.org/19990101faessay955/steven-r-david/saving-america-from-the-coming-civilwars.html

If internal war does strike Russia, economic deterioration will be a prime cause. From 1989 to the present, the GDP has fallen by 50 percent. In a society where, ten years ago, unemployment scarcely existed, it reached 9.5 percent in 1997 with many economists declaring the true figure to be much higher. Twenty-two percent of Russians live below the official poverty line (earning less than $ 70 a month). Modern Russia can neither collect taxes (it gathers only half the revenue it is due) nor significantly cut spending. Reformers tout privatization as the country's cure-all, but in a land without well-defined property rights or contract law and where subsidies remain a way of life, the prospects for transition to an American-style capitalist economy look remote at best. As the massive devaluation of the ruble and the current political crisis show, Russia's condition is even worse than most analysts feared. If conditions get worse, even the stoic Russian people will soon run out of patience.  A future conflict would quickly draw in Russia's military. In the Soviet days civilian rule kept the powerful armed forces in check. But with the Communist Party out of office, what little civilian control remains relies on an exceedingly fragile foundation -- personal friendships between government leaders and military commanders. Meanwhile, the morale of Russian soldiers has fallen to a dangerous low. Drastic cuts in spending mean inadequate pay, housing, and medical care. A new emphasis on domestic missions has created an ideological split between the old and new guard in the military leadership, increasing the risk that disgruntled generals may enter the political fray and feeding the resentment of soldiers who dislike being used as a national police force. Newly enhanced ties between military units and local authorities pose another danger. Soldiers grow ever more dependent on local governments for housing, food, and wages. Draftees serve closer to home, and new laws have increased local control over the armed forces. Were a conflict to emerge between a regional power and Moscow, it is not at all clear which side the military would support.  Divining the military's allegiance is crucial, however, since the structure of the Russian Federation makes it virtually certain that regional conflicts will continue to erupt. Russia's 89 republics, krais, and oblasts grow ever more independent in a system that does little to keep them together. As the central government finds itself unable to force its will beyond Moscow (if even that far), power devolves to the periphery. With the economy collapsing, republics feel less and less incentive to pay taxes to Moscow when they receive so little in return. Three-quarters of them already have their own constitutions, nearly all of which make some claim to sovereignty. Strong ethnic bonds promoted by shortsighted Soviet policies may motivate non-Russians to secede from the Federation. Chechnya's successful revolt against Russian control inspired similar movements for autonomy and independence throughout the country. If these rebellions spread and Moscow responds with force, civil war is likely.  Should Russia succumb to internal war, the consequences for the United States and Europe will be severe. A major power like Russia -- even though in decline -- does not suffer civil war quietly or alone. An embattled Russian Federation might provoke opportunistic attacks from enemies such as China. Massive flows of refugees would pour into central and western Europe. Armed struggles in Russia could easily spill into its neighbors. Damage from the fighting, particularly attacks on nuclear plants, would poison the environment of much of Europe and Asia. Within Russia, the consequences would be even worse. Just as the sheer brutality of the last Russian civil war laid the basis for the privations of Soviet communism, a second civil war might produce another horrific regime.

## US

#### **The US is the source of the largest increase in oil capacity**

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

Contrary to what most people believe, oil supply capacity is growing worldwide at such an unprecedented level that it might outpace consumption. This could lead to a glut of overproduction and a steep dip in oil prices. Based on original, bottom-up, field-by-field analysis of most oil exploration and development projects in the world, this paper suggests that an unrestricted, additional production (the level of production targeted by each single project, according to its schedule, unadjusted for risk) of more than 49 million barrels per day of oil (crude oil and natural gas liquids, or NGLs) is targeted for 2020, the equivalent of more than half the current world production capacity of 93 mbd. After adjusting this substantial figure considering the risk factors affecting the actual accomplishment of the projects on a country-by-country basis, the additional production that could come by 2020 is about 29 mbd. Factoring in depletion rates of currently producing oilfields and their “reserve growth” (the estimated increases in crude oil, natural gas, and natural gas liquids that could be added to existing reserves through extension, revision, improved recovery efficiency, and the discovery of new pools or reservoirs), the net additional production capacity by 2020 could be 17.6 mbd, yielding a world oil production capacity of 110.6 mbd by that date – as shown in Figure 1. This would represent the most significant increase in any decade since the 1980s.

The economic prerequisite for this new production to develop is a long-term price of oil of $70 per barrel. Indeed, at current costs, less than 20 percent of the new production does not seem profitable at prices lower than this level.

Only four of the current big oil suppliers (more than 1 mbd of production capacity) face a net reduction of their production capacity by 2020: Norway, the United Kingdom, Mexico, and Iran. For the latter two, the loss of production is primarily due to political factors. All other producers are capable of increasing or preserving their production capacity. In fact, by balancing depletion rates and reserve growth on a country-by-country basis, decline profiles of already producing oilfields appear less pronounced than assessed by most experts, being no higher than 2 to 3 percent on a yearly basis.

This oil revival is spurred by an unparalleled investment cycle that started in 2003 and has reached its climax from 2010 on, with three-year investments in oil and gas exploration and production of more than $1.5 trillion (2012 data are estimates). As shown in Figure 2, in the aggregate, production capacity growth will occur almost everywhere, bringing about also a “de-conventionalization” of oil supplies. During the next decades, this will produce an expanding amount of what we define today as “unconventional oils”\*

After considering risk-factors, depletion pattern and reserve growth, four countries show the highest potential in terms of effective production capacity growth: they are, in order, Iraq, the U.S., Canada, and Brazil. This is a novelty, because three out of four of these countries are part of the western hemisphere, and one only – Iraq – belongs to the traditional center of gravity of the oil world, the Persian Gulf. – such as U.S. shale/tight oils, Canadian tar sands, Venezuela’s extra-heavy oils, and Brazil’s pre-salt oils.

The most surprising factor of the global picture, however, is the explosion of the U.S. oil output.

Thanks to the technological revolution brought about by the combined use of horizontal drilling and hydraulic fracturing, the U.S. is now exploiting its huge and virtually untouched shale and tight oil fields, whose production – although still in its infancy – is already skyrocketing in North Dakota and Texas.

The U.S. shale/tight oil could be a paradigm-shifter for the oil world, because it could alter its features by allowing not only for the development of the world’s still virgin shale/tight oil formations, but also for recovering more oil from conventional, established oilfields – whose average recovery rate is currently no higher than 35 percent.

The natural endowment of the initial American shale play, Bakken/Three Forks (a tight oil formation) in North Dakota and Montana, could become a big Persian Gulf producing country within the United States. But the country has more than twenty big shale oil formations, especially the Eagle Ford Shale, where the recent boom is revealing a hydrocarbon endowment comparable to that of the Bakken Shale. Most of U.S. shale and tight oil are profitable at a price of oil (WTI) ranging from $50 to $65 per barrel, thus making them sufficiently resilient to a significant downturn of oil prices.

The combined additional, unrestricted liquid production from the aggregate shale/tight oil formations examined in this paper could reach 6.6 mbd by 2020, in addition to another 1 mbd of new conventional production. However, there remain obstacles that could significantly reduce the U.S. shale output: among them, the inadequate U.S. oil transportation system, the country’s refining structure, the amount of associated natural gas produced with shale oil, and environmental doubts about hydraulic fracturing, one of the key technologies for extracting oil

#### Only the US can increase output through shale

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

It is worth noting that the U.S. shale revolution cannot be easily replicated in other areas of the world – at least in a short period of time – due not only to the huge resource base of shale/tight oil plays existing in the U.S., but also to some unique features of the U.S. oil industry and market, such as the private ownership of mineral rights, the presence of thousands independent companies – oftentimes small – that historically played the role of pioneering new high-risk, high-reward targets, the huge availability of drilling rigs and other exploration and production tools, a very active financial market that supply money for new ventures. With the exception of Canada, these key features are foreign to other parts of the world, and they make the U.S. and Canada a sort of unique arena of experimentation and innovation.

## Venezuela

#### 100 dollars is key to Venezuelan spare capacity

Greenwire June 14, 2012 Thursday, “OIL: Venezuela blazes past Saudi Arabia in proven reserves” Energy Vol. 10 No. 9

Venezuela has overtaken Saudi Arabia to become the world's biggest holder of proven oil reserves, according to new data from BP PLC. BP's annual "Statistical Review of World Energy" put the South American country's deposits at 296.5 billion barrels at the end of last year, up from 211.2 billion in the previous year's report. Under a government plan released June 12, President Hugo Chavez plans to more than double the country's oil-production capacity to 6 million barrels a day by 2019. Speaking at a meeting of the Organization of Petroleum Exporting Countries in Vienna this week, Venezuelan Oil Minister Rafael Ramirez said oil prices need to be higher than $100 a barrel and that the 15 percent slump in crude prices last month is dangerous for producers. The BP report placed Canada third in reserves, with an estimated 175.2 billion barrels, or 11 percent of total global reserves (Rupert Rowling, Bloomberg, June 13). -- AS

## A2: Dependency

#### Oil is fungible – the US can’t isolate itself from global market swings, and isolation leads to worse political situations in the ME causing shocks

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

Since the 1970s, this notion has been of great importance in the U.S. political debate. Yet oil self-sufficiency, or quasi self-sufficiency, may be important only in cases of major wars, when the disruption of sizeable foreign oil supplies could endanger the military effort or the country’s self-defense. In all other cases, one must never forget that the oil market is global and fungible, and a country cannot be insulated from what is happening in the rest of the world even if it self-sufficient in terms of its own oil consumption. For example, a fall in oil prices because of overproduction in the Middle East can influence the market for higher-cost U.S. or Western hemisphere oil, just as an oil price spike during a major crisis in the Middle East can affect oil prices in the U.S.

For these reasons, I do not think it would be wise for the U.S. to lessen its interest in the Middle East because of its newly found quasi self-sufficiency. After World War II, the U.S. was still substantially self-sufficient in terms of oil availability, yet it established long-lasting alliances with many Middle East States to prevent Soviet Russia from penetrating the region and leveraging its influence to distort the global oil market.

The same risk would occur in the future if hostile countries or political movements were to fill void left by the U.S. Moreover, other western hemisphere producers, such as Canada, Venezuela, and Brazil, may shift their exports towards international markets for commercial reasons, thus contradicting the notion of western-hemisphere oil self-sufficiency.

Is all this irrelevant to the U.S.? Would it be a sound policy for the U.S. to turn its back on Saudi Arabia, Iraq, and other important Middle Eastern oil producers because it somehow no longer requires their oil? I think not.

In any case, the truly important impact of the U.S. Shale/Tight Oil Revolution is of different nature. Specifically, it could reflect the following:

• An advantage for U.S. GDP, employment, and balance of trade. Given the relative infancy of the boom, there are no extensive research studies or analyses of its potential contribution to the overall performance of the U.S. economy by 2020. So far, the only estimate of the broader effects of the combined shale oil and gas revolution on the United States economy has been made by Citigroup, according to which “the cumulative impact of new production and reduced consumption could increase real U.S. gross domestic product (GDP) by 2% to 3.3%, or by $370 billion to $624 billion, by 2020.” As to the labor market, Citigroup estimated “that as many as 3.6 million new jobs may be created on net by 2020. Some 600,000 jobs would be in the oil and gas extraction sector, another 1.1 million jobs in related industrial and manufacturing activity, and the remainder in ancillary job sectors.” Finally, the shale hydrocarbon revolution may substantially affect the U.S. current account deficit, which, “currently running at negative 3% of GDP, may be reduced by anywhere from 1.2% of GDP to 2.4% of GDP.”58 In the absence of other estimates, these bold figures may illustrate the magnitude of the U.S. shale hydrocarbon revolution.

• A pillar of the overall “liquidity” of the future global oil market, helping lo lower oil prices. Without U.S. shale oils, as well as other unconventional oils from Canada, Venezuela, and Brazil, the consumers of the world would continue to experience phases of tight supply and high prices, especially during geopolitical crises.

• A great opportunity to seize technological leadership not only in oil production methods, but also in new ways of making oil production more environmentally and climate friendly.

All of these elements reinforce the need for a comprehensive, win-win solution. However, a detailed manual of such a solution is not the purpose of this paper.

# Shocks

## Shocks Defense

#### Global excess supply can prevent price shocks now

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

The oil market is already adequately supplied. Global oil spare capacity (the difference between the world’s total oil production capacity that can be reached within 30 days – and sustained for 90 days – and the actual global production), is probably at about 4 mbd, absorbing a major disruption from a big oil producer such as Iran. In fact, the mere dynamics of supply, demand, and spare capacity cannot explain the high level of oil prices today. At more than $100 per barrel, the international benchmark crude Brent is $20 to $25 above the marginal cost of oil production. Only geopolitical and psychological factors (above all, a major crisis related to Iran) and a still deep-rooted belief that oil is about to become a scarce commodity, can explain the departure of oil prices from economic fundamentals.

#### No shocks – excess capacity now

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

The oil market is already adequately supplied with spare capacity of around 4 mbd. This should be able to absorb a major disruption even from a major oil producer like Iran. Furthermore, global production capacity is regularly surpassing demand, in spite of the political and infrastructural problems of several producing countries. In fact, the mere dynamics of supply, demand, and spare capacity cannot explain the high level of oil prices today.

#### US economy is resilient to oil shocks

 Joshua Zumbrun and Romy Varghese on 4-9, 2012(<http://www.businessweek.com/news/2012-05-09/fed-s-plosser-says-u-dot-s-dot-economy-proving-resilient-to-shocks>)

“The economy has now grown for 11 consecutive quarters,” Plosser said today according to remarks prepared for a speech at the Philadelphia Fed. “Growth is not robust. But growth in the past year has continued despite significant risks and external and internal headwinds.”¶ Plosser, who did not discuss his economic outlook or the future for monetary policy, cited shocks to the economy last year, including the tsunami in Japan that disrupted global supply chains, Europe’s credit crisis that has damaged the continent’s banking system and political unrest in the Middle East and North Africa.¶ “The U.S. economy has a history of being remarkably resilient,” said Plosser, who doesn’t have a vote on policy this year. “These shocks held GDP growth to less than 1 percent in the first half of 2011, and many analysts were concerned that the economy was heading toward a double dip. Yet, the economy proved resilient and growth picked up in the second half of the year.”

## A2: War --> Shock

#### Oil shock won’t happen – no major effect from war or attack

Yetiv, 4/3/12 (Steve A. Yetiv is a professor of political science and international studies at Old Dominion University. He is the author of “Crude Awakenings: Global Oil Security and American Foreign Policy.”, “Oil Shock Not as Likely as You Think”, http://www.thejakartaglobe.com/commentary/oil-shock-not-as-likely-as-you-think/508788)

Oil prices are up more than 30 percent from six months ago amid fears that Israel or the United States may strike Iran. Concerns have spread that military conflict would cause a major shock to oil prices, damaging the US and global economies. While the situation is serious, such predictions are unlikely to pan out. Understanding how such fears are exaggerated would clarify the stakes in the standoff and underscore how scholars, market analysts and oil traders often overestimate the effect geopolitical events will have on prices. ¶ For starters, Iran and Saudi Arabia have been at loggerheads since Iran’s 1979 revolution, with Tehran intermittently trying to undermine the Saudi regime. The last thing Sunni-dominated Saudi Arabia wants is a nuclear Shiite Iran to which it would have to kowtow. The Saudis are ready to use their spare and idle oil capacity to make up for any disruption in the 2.4 million barrels Iran exports per day, as the Saudi oil minister recently noted. ¶ In the event of war, it is almost certain that the United States would coordinate an oil release with the International Energy Agency. The IEA requires each of its 28 members to hold enough oil in the form of international oil company stocks and/or strategic petroleum reserves to withstand a total cutoff of imports for 90 days. When the US-led coalition attacked Iraqi forces in Kuwait in 1991, a US-IEA joint release helped significantly lower world oil prices. ¶ Even if the IEA does not act, the United States has strategic oil reserves it could release on its own. IEA members hold more than 1.6 billion barrels of oil, with the United States alone holding well over 700 million barrels. That capacity could be used to defray the loss of Iran’s oil exports for many months. President Obama referred to this capacity Friday when noting that new sanctions that target Iran’s oil exports on Iran would not harm allies. ¶ Recent tensions sparked fears that Iran would close the Strait of Hormuz, through which 17 percent of the world’s oil flows. Tehran can certainly disrupt oil transit, but, whatever its threats, it does not have the capability to challenge the US Navy for long. Such a fight would be one of history’s biggest mismatches. ¶ Another concern is that terror groups Hamas and Hezbollah, which are linked to Iran and sometimes viewed as its proxies, would attack Israel if the Jewish state or the United States strikes Iran. That is quite possible. But such conflicts have little to do with oil disruptions. Oil traders would eventually understand that an Israeli border conflict means little for oil prices unless it triggers a wider Middle East battle, such as the 1973 Arab-Israeli war. The chances of that are slim unless one believes that Sunni, Arab Egypt — a state in chaos — would suddenly align with Shiite, Persian Iran, an unprecedented alliance. And without Egypt, a broader war is not possible. ¶ Those concerned about the fallout of a war with Iran should also consider that Libya’s oil exports, which were cut off from February to October last year, are likely to reach pre-conflict levels in the next three to six months. That is one less constraint on the global oil supply. ¶ We should also consider that Europe’s economic woes, the lackluster US economy and China’s slowing rate of growth are restraining the global demand for oil. Prices would jump much more if an Iran war coincided with higher global economic growth and oil demand. ¶ And what of oil speculators? They are driving prices higher, hoping to make a quick buck on rate changes. Speculators would probably start to sell oil futures as war breaks out, seeking to cash in on their bets. This is another factor that would cause prices to fall. ¶ Would all these conditions remain the same if Israel, and not the United States, were to attack Iran? Probably, because the United States, the IEA and Saudi Arabia are committed to price stability during major crises and because markets will work regardless of antagonists. The Saudis would act in part because they want to see Iran fail. And Washington would likely be dragged into any conflict. ¶ During the past two decades, oil traders and security analysts have repeatedly overestimated the effect global crises would have on oil prices. Last year, for example, it was feared that the Arab Spring would undermine the Saudi regime and drive oil prices through the roof, but this never happened. Consider, too, that Turkey’s invasion of northern Iraq in 2008, to squash the Kurdish rebels, drove oil prices higher — even though the action had no impact on oil supply and delivery. ¶ The potential crisis with Iran may well turn out to be another example of exaggerated fears. If war comes, oil prices will surely rise. But contrary to conventional wisdom, they are not likely to stay high for long.

## A2: High Oil Economy Impact

#### Oil only represents 3.7% of national spending despite the fact that Americans are driving more than ever, it isn’t having much of an impact on the economy.

CNNMoney 12

(,Rising gas prices aren't as bad as you think, CNNMoney

 <http://money.cnn.com/2012/03/21/news/economy/gas-prices-impact/index.htm>)

Gas prices are once again dominating the national debate.¶ But despite rhetoric, high [gas prices](http://money.cnn.com/2012/03/18/news/economy/gas-prices-aaa/index.htm?iid=EL) aren't hurting as much as they used to.¶ In 1981, when oil prices spiked following the Iranian Revolution, gasoline represented nearly 5% of the nation's spending, according to the Bureau of Economic Analysis. In 2011, only 3.7% of spending went to gas, even though prices averaged at their highest level ever that year. In addition to spending less, we're driving more than ever -- 90% more than compared to the early '80s, according to the Federal Highway Administration. This isn't to say [high gas prices don't hurt](http://money.cnn.com/2012/02/28/smallbusiness/gas_prices/index.htm?iid=EL) -- they do, especially for people living paycheck-to-paycheck or those that drive a lot. But for the average American household, which has an income of over $62,000 a year, the increase in gas prices represents a relatively small portion of total spending. For example, in 2008 gas prices were all over the news when they hit their all time high. But in 2010 when prices fell people barely mentioned them.¶ Yet spending on gas totaled only $12 more per week in 2008 than in 2010, according to numbers provided by the Bureau of Labor Statistics.¶ That $12 per week is roughly the same amount that BLS figures show people spent on "pets, toys, hobbies and playground equipment."¶ "The incremental expenditure is not that much," said Akshay Rao, a professor of marketing at the University of Minnesota's Carlson School of Management who has studied gas prices. "But that's not how people think about it."¶ Moreover, today's high prices don't appear to be having a big drag on the economy.¶

## Oil Shocks Bad

### Global War

Oil shocks empirically collapse growth—Kill consumption and spike inflation

Roubini & Setser 4 (Nouriel Roubini, Professor of Business, Brad Setser, Research Associate, Global Economic Governance Programme, University College, Oxford, August 2004, online)

Oil prices shocks have a stagflationary effect on the macroeconomy of an oil importing country: they slow down the rate of growth (and may even reduce the level of output – i.e. cause a recession) and they lead to an increase in the price level and potentially an increase in the inflation rate. An oil price hike acts like a tax on consumption and, for a net oil importer like the United States, the benefits of the tax go to major oil producers rather than the U.S. government. The impact on growth and prices of an oil shock depends on many factors: - The size of the shock, both in terms of the new real price of oil and the percentage increase in oil prices. At its close of $43 a barrel on July 30, 2004, the current real price of oil is high – well above the levels during the 1990 and 2000 oil minishocks, but it remains well below the peak real oil price of $82 in 1980, and equal to the post 73 real price of $43. The recent 65% increase in oil prices (since the 2002 average price) 3 is comparable to the increase in 2000 (60%, but from a very low starting point, as oil prices had fallen to a low of around $15 in 1999), higher than the increase in 1990 (40%), but much smaller than the increases in 1973 (210%) and 1979-80 (135%). - The shock’s persistence. This will depend on many things, many as much political as economic, since the current high oil price reflects both booming Asian demand (China alone is expected to account for roughly 40% of the increase in demand for oil in 2004) and geopolitical risk in the Middle East (the “fear premium” estimated to add between $4 and $8 to current prices). - The dependency of the economy on oil and energy. The U.S. economy is much less energy intensive than it was in the 1970s, but it also much bigger and produces comparatively less domestic oil. Net oil imports of 1.2% of GDP in 2003 are higher than net oil imports of 0.9% of GDP in 1970. - The policy response of monetary and fiscal authorities These effects are not trivial: oil shocks have caused and/or contributed to each one of the US and global recessions of the last thirty years. Yet while recent recessions have all been linked to an increase in the price of oil, not all oil price spikes lead to a recession. The 2003 spike associated with the invasion of Iraq is a good example.

Extinction

Bearden 2000(Lt. Col Thomas E. Bearden, PhD, MS, BSCo-inventor - the 2002 Motionless Electromagnetic Generator - a replicated overunity EM generator Listed in Marquis' Who'sWho in America, 2004)

Just **prior to the** terrible **collapse of the World economy**, with the crumbling well underway and rising, **it is inevitable that** some of the **weapons of mass destruction will be used** by one or more nations **on others**. An interesting result then—as all the old strategic studies used to show—is that **everyone will fire everything as fast as possible against their perceived enemies**. The reason is simple: When the mass destruction weapons are unleashed at all, **the only chance a nation has to survive is to** desperately try to **destroy its perceived enemies** before they destroy it. So **there will erupt a spasmodic unleashing of the long range missiles, nuclear arsenals, and biological warfare arsenals of the nations as they feel the economic collapse**, poverty, death, misery, etc. a bit earlier. **The ensuing holocaust is certain to immediately draw in the major nations also,** and literally a **hell on earth will result**. In short, **we will get the great Armageddon** we have been fearing since the advent of the nuclear genie. Right now, my personal estimate is that **we have** about **a 99% chance of that scenario** or some modified version of it, **resulting**.

### ME War

#### Price spikes escalate war in the Middle east

KLARE (dir. 5 college program in peace and world security studies) 2002

[Michael, serves on the board of directors of the Arms Control Association, the National Council of the Federation of American Scientists, and the advisory board of the Arms Division of Human Rights Watch serves on the board of directors of the Arms Control Association, the National Council of the Federation of American Scientists, and the advisory board of the Arms Division of Human Rights Watch Resource Wars: The new landscape of Global Conflict, pg 57 pgf 2 //delo-uwyo]

The industrialized world's growing dependence on Persian Gulf energy will exacerbate many of the pressures described earlier in this chapter. Oil and gas deposits located in contested areas will become increasingly valuable, and so the claimants to these reserves will face greater temptation to seize and occupy them through the use of force. Similarly, ambitious leaders could be tempted to expand their oil holdings by annexing neighboring countries, as Saddam Hussein tried to do in 1990. The further concentration of petroleum income in the hands of ruling elites could also provoke an increase in revolutionary fervor among those less fortunate. Any of these developments, moreover, could jeppardize the free flow of oil, leading to military intervention by th~ United States.7

#### War collapses the global economy

HEINBERG **(Core staff member of new college of California)** 2003 [Richard, The Party’s Over, pg 119 pgf grey =//delo-uwyo]

War in the Middle East The effects of this are hard to predict. Will the war last weeks or years. How many notions will become involved? Modern warfare consumes large quantities of oil, thus temporarily causing demand to increase. At the same time, war in the oil rich Middle East could tempporarily damage at least some of that region's oil production capacity, and some reserves might be permanently destroyed (as happened in 1991 when retreating Iraqi troops set fire to Kuwait's oil wells, burning off perhaps (two percent of its ultimately recoverable reserves) Moreover, war could send the global economy into a tailspin, which would have its own impacts (see above) The net effect on the timing of the extraction peak will depend on the confluence of all of these factors.

#### Forces US intervention

ROBERTS in 2004 [Paul, author of The End of Oil, Interview with motherjones.com, June 8, “The End of Oil”, [**http://www.motherjones.com/news/qa/2004/05/paul\_rob\_qa.html**](http://www.motherjones.com/news/qa/2004/05/paul_rob_qa.html) //wyo-pinto]

Iraq is the centerpiece [of it]. It automatically marks you as a leftist-green-Nader-anarchist in Seattle if you say that it’s a war for oil. But the problem is that it’s been left in this very narrow political context. That's to say, if you say it’s a war for oil, that means that you're against Bush, and if you claim that it’s a war to promote democracy, than you’re for Bush. But you have to give it a much wider context and say that: given that the U.S. uses as much as oil as it does and has done nothing to reduce its demand and given that the global economy on which U.S. power depends entirely; given that global economy depends entirely on oil, mostly from Middle East, the U.S. has no choice but to be intimately connected with Middle Eastern policy, and to intervene -- either diplomatically or economically or worse -- if the stability of the region is threatened. And that this has been the case under any administration. The U.S. has not cut its demand, so it must involve itself in the affairs of its suppliers of oil. But it's been allowed to be staged so narrowly focused that as soon as you raise the war-for-oil rhetoric, you are unpatriotic. But the fact is that the issue is much larger than that and always has been.

### No Adaption

#### Panic will collapse society before adaption sets in

GOODSTEIN (Vice Provost and Professor of Physics and Applied Physics at Caltech 35 yrs) 2004 [David, Out of Gas: End of the Age of Oil, Pg 47 pgf 1 //delo-uwyo]

Speaking of conventional economics, economists firmly believe that when the oil starts to run out, the rising price will bring other, more expensive fuels to the marketplace. As we have already seen, the truth is a little more complicated than that. History shows that we don't react in an orderly, predictable way even to a temporary shortage of our precious gasoline. And whether we panic or not, the rate-of-conversion problem is likety to defeat us. Also, no other fossil fuel can replace the cheap oil that is the cornerstone of our civilization. And finally, if we do manage to burn up the other fossil fuels too, the consequences for our climate cannot be predicted. All in all, we clearly have a serious energy problem.

#### There is no effective adaption to major production gaps, the response would take decades

GOODSTEIN (Vice Provost and Professor of Physics and Applied Physics at Caltech 35 yrs) 2004 [David, Out of Gas: End of the Age of Oil, Pg 18- pgf 3- //delo-uwyo]

Some economists say that we don't need to worry about running out of oil, because while it's happening the rise in oil prices will make other fuels economically competitive and oil will be replaced by something else. But as we learned in 1973, the effects of an oil shortage can be immediate and drastic, while it may take years, perhaps decades, to replace the vast infrastructure that supports the manufacture, distribution, and consumption of the products of the twenty million barrels of oil we Americans alone gobble up each day.

### Emissions Cuts

#### Rapid price spikes would destroy global Co2 emission curbs

ROBERTS **(expert on the interplay of economics, technology, and the environment,)** 2004 [Paul, Graudate of Univ Washington, Written many articles: NYT, New Republic, Harper’s on environmental issues, finalist for national magazine award 99, The End of Oil: on the edge of a perilous new world, pg 311 pg 2-3 //delo-uwyo]

As the damage mounted, policymakers would be increasingly likely to take defensive and short-term actions, which, though necessary under the circumstances, could end any move toward a more progressive energy economy. To ease high energy prices, for example, regulators might waive emission requirements for coal-fired power plants. American policymakers would try to increase domestic oil production, by opening off-limits areas to drilling. They would also encourage additional production of "unconventional" oils, from the tar sands in Alberta, for example, and probably waive emission-control requirements there, too. "You can imagine a really ugly future where we're making massive quantities of synthetic fuels from coal and heavy oils and seeing huge increases in our carbon emissions;' says Dan Lashof, an energy analyst with the environmentalist group Natural Resources Defense Council.' As recession set in, Congress would drop any plans to require automakers to raise efficiency standards. Lawmakers would also cut funding for nonessential energy programs, including R & D for hydrogen and subsidies for wind power and other renewable industries. Such a defensive energy strategy would have catastrophic long-term impacts. Were the United States to move deeper into a traditional hydrocarbon economy, and further away from even a pretense of reducing CO2 emissions, analysts fear that European governments might be pressured into delaying their own aggressive CO2 reduction goals. As one U.S. climate policy expert put it, "any new U.S. move away from a climate policy could easily delay policy action in other countries, both by mobilizing the forces within those countries which are opposed to climate action, such as busi- ness lobbies, and also by giving cover to any leaders unwilling to take on climate change?' China and India, too, could feel less pressure from the West to modernize their own energy economies and might resume the rapid expansion of conventional coal-fired power plants. If these developments occurred, energy analysts say, keeping atmospheric concentrations of CO2 below the 550 parts-per-million threshold would prove impossible and catastrophic warming would become all but inevitable.

# Peak

### Oil peak

#### We already hit the oil peak – sources declining annually

Timmer, 01/12 (John Timmer - Bachelor of Arts in Biochemistry from Columbia University and a Ph.D, “We've hit "peak oil"; now comes permanent price volatility”, <http://arstechnica.com/science/2012/01/weve-hit-peak-oil-now-comes-permanent-price-volatility/>)

¶ Since 2005, the global production of oil has remained relatively flat, peaking in 2008 and declining since, even as demand for petroleum has continued to increase. The result has been wild fluctuations in the price of oil as small changes in demand set off large shocks in the system. ¶ ¶ In today's issue of Nature, two authors (the University of Washington's James Murray and Oxford's David King) argue that this sort of volatility will be all we can expect from here on out—and we're likely to face it with other fossil fuels, as well.¶ ¶ Limited supply¶ ¶ The notion of peak oil is a fairly simple one: oil is a finite resource and, at some point, we simply won't be able to extract as much as we had previously. There really is no getting around that limit for any finite resource. The issue that has made peak oil contentious, however, is the debate over when we might actually hit it. Murray and King are not the first to conclude that, even as the arguments were still going on, we had already passed oil's peak. Even though prices have gone up by about 15 percent per year since 2005, production has been largely flat.¶ ¶ The strongest argument against this being a real peak is the increasing volume of petroleum reserves reported by many countries. Even assuming those estimates were reliable (which the authors aren't entirely certain about), these reserves have clearly not enabled increased production. In the US, for example, production as a percentage of total reserves has dropped from nine percent to six percent over the last three decades. ¶ ¶ "We are not running out of oil," the authors argue, "but we are running out of oil that can be produced easily and cheaply." This creates significant delays before any of the new reserves can be tapped, and it limits the amount of oil that can be economically extracted from them.¶ ¶ Non-conventional sources like oil sands have the potential to contribute to the global supply but, so far at least, they haven't managed to do so; current production estimates indicate that they won't any time soon.¶ ¶ The struggle to mobilize supplies has taken place against a backdrop of falling production and rising demand. Most established sources of oil are seeing declines in the area of five percent annually. Given that decline, it will be extremely difficult to meet demands projected for 2030—in fact, we'd have to add the equivalent of our total current production. In a fit of understatement, the authors deem this "very unlikely to happen."

#### Oil peak leads to economic crisis – empirics prove

Timmer, 01/12 (John Timmer - Bachelor of Arts in Biochemistry from Columbia University and a Ph.D, “We've hit "peak oil"; now comes permanent price volatility”, <http://arstechnica.com/science/2012/01/weve-hit-peak-oil-now-comes-permanent-price-volatility/>)

Economic impacts¶ What are the consequences of being stuck at or near peak oil? The authors have produced a graph showing that, while supply is elastic enough to meet demand, prices stay stable. Once demand consistently exceeds supply, prices swing wildly. Murray and King term this a "phase transition" and suggest we'll be in the volatile phase from here on out.¶ That has some pretty significant consequences. Of the 11 recessions the US has experienced since World War II, 10 have been preceded by a sudden change in oil prices. The US isn't alone, either. Italy's entire trade deficit, which has contributed to its financial troubles, can be accounted for by the rise in imported oil. The world, it seems, has allowed its economies to become entirely dependent upon fossil fuels. "If oil production can't grow, the implication is that the economy can't grow either," the authors write. "This is such a frightening prospect that many have simply avoided considering it."¶ And it's not just oil that poses problems. US coal production peaked in 2002, and the global peak has been predicted to hit as soon as 2025. The last time global coal reserves were evaluated, in 2005, the total was cut by more than half compared to previous estimates. Fracking has boosted the production of natural gas dramatically, but even here the authors find some reasons for concern. Recent reports suggest that shale gas reserves have been overestimated, and many fields that have been in production for a while have experienced large declines in production.¶ The commentary concludes that we simply can't rely on any fossil fuel to provide a stable and economic source of energy for more than a couple of decades. And, given the economic shocks that result from rapid changes in energy prices, that's a serious problem. "Economists and politicians continually debate policies that will lead to a return to economic growth," the authors note. "But because they have failed to recognize that the high price of energy is a central problem, they haven't identified the necessary solution: weaning society off fossil fuel."¶ This weaning will require a large deployment of efficiency measures, nuclear power, and renewable energy sources. All of this will take time, which is why efforts need to be started now, the authors argue. (Not mentioned, but equally true, is the probability that taking these measures will smooth out the impact of reaching peak fossil fuel production.) Unfortunately, since most governments are unwilling to admit the prospect of indefinite economic stagnation due to our reliance on fossil fuels, they've been unable to generate the political will to even begin these efforts. Murray and King clearly hope their commentary will help get the ball rolling.

### No oil peak

#### No peak oil in the future – their predictions fail, we will always produce more

Forbes, 03/12 (Lara Hoffmans – contributor of Forbes, “Doom Is (Not) Coming”, http://www.forbes.com/sites/larahoffmans/2012/03/07/doom-is-not-coming/)

Long-term forecasts are rarely sunny or even middling. In fact, they’re often fairly dystopian: Peak oil, peak gas, peak water, peak food, mass hysteria, zombie apocalypse.¶ Yet, to believe such specific long-term forecasts, you must believe that, now, folks have the never-before-seen ability and technology to accurately make long-term forecasts based on far distant supply pressures, unknowable future innovations and myriad other factors in the complex beast that is the global economy. Consider just one example: The (always moving) Peak Oil date certain has come and gone many, many times. Why? Extracting from easy-to-find conventional sources may slow. But there was just no way for folks in the 1950s to know that, 60 years later, we’d still be finding caches of oil (and natural gas) and innovating new ways to get at said energy sources more cheaply. Every decade, the world consumes more energy, yet every decade, the known energy reserves increase. Amazing.¶ Or maybe not so amazing. Maybe that’s just the way of the world (as Peter Diamandis suggests in this marvelous video: Abundance is our future).¶ The belief the future will be unmitigated disaster isn’t new to this generation. Humanity is prone to be hypersensitive to unknown future risk. Our brains evolved through tens of millennia to be keenly focused on survival—hence our tendency to focus on the negative. This was handy when one was trying to stay three steps ahead of giant hungry predators and gather enough sustenance to survive a snowy winter in the wilderness, but is probably less useful in helping us think more clearly about the future.¶ Over the past 100 years average human lifespan has doubled, average per-capita income (inflation adjusted) has tripled and childhood mortality is down by a factor of ten. The cost of basic necessities has fallen—sometimes radically. (If you haven’t watched that video yet, stop and do it now.)¶ And the future likely only features still more health- and wealth-creating innovations—in the US and elsewhere. I’ve read plenty of dystopian predictions, yet none identify what the trigger was to make human nature change. To make us, suddenly, no longer apt to chase profits and, in doing so, innovate new solutions to squash disease, find energy, grow food, purify water and generally make life more comfortable (and entertaining). Then, too, the beauty of making long-term forecasts is they sound compelling, but folks rarely check back after 20 years to see if the forecaster was right. Meanwhile, actual history says that, since the Industrial Revolution, every 20-year period has unleashed heretofore unfathomable technological advances. And absent some fundamental and rapid human evolution, we likely only get more exponential innovation in the future. As Mr. Diamandis put it, “Technology is a resource liberating force.”

#### Can’t predict oil peaks – too many factors affect the outcome – have a high threshold for their evidence

Wuerthner, 03/12 (George Wuerthner – contributor to counterpunch – ecologist, professional photographer and writer who has published 34 books, “The Myth of Peak Oil”, <http://www.counterpunch.org/2012/03/29/the-myth-of-peak-oil/>)

Each time there is a short-term shortage of oil or the price begins to rise, there is talk of running out of affordable oil, an idea captured by the concept of Peak Oil. Peak Oil is the theoretical point when the maximum rate of oil production is reached and after that time enters into a terminal decline. There is a lot of debate surrounding the Peak Oil theory, with some observers predicting rapid decline in oil production with serious implications for our entire economy and society.¶ No name is more closely associated with the concept of Peak Oil than geologist Marion King Hubbert. Hubbert was a research geologist for Shell Oil Company and later the US Geological Service. Hubbert is credited with developing a quantitative technique (Logistic Growth Curve) now commonly referred to as the Hubbert Curve, which he suggested could be used to predict the remaining oil supplies (or any other finite resource like gas, copper, etc.) and the time of eventual depletion.¶ In the 1956 meeting of the American Petroleum Institute in San Antonio, Texas, Hubbert presented a paper titled Nuclear Energy and Fossil Fuels where he suggested that overall petroleum production would peak in the United States between the late 1960s and the early 1970s. Since US oil production did indeed appear to peak in 1970, many Peak Oil advocates acclaim Hubbert as a prophet. However, an apparent peak in production does not necessarily represent a peak in oil availability, especially in a global market—something that Peak Oil advocates tend to overlook. In fact, a “peak” may just be one of many “spikes”.¶ Another point of confusion in the debate over the ultimate availability of oil and gas supplies is the question of “unconventional” fossil fuel sources like tar sands, oil shales, heavy oils, and shale oil. Hubbert did not include these other energy types in his estimates and many of the proponents of Peak Oil today tend to ignore these hydro-carbon sources. However, since there is vastly more oil (and gas) found in these “unconventional” sources compared to “conventional” crude oil and traditional gas sources, the exclusion of them from any policy debate over oil’s demise leads to serious misrepresentation of our ultimate fossil fuel availability.¶ As Hubbert wrote in his paper, “if we knew the quantity (of some resource) initially present, we could draw a family of possible production curves, all of which would exhibit the common property of beginning and ending at zero, and encompassing an area equal to or less than the initial quantity.” In theory, Hubbert’s basic concept is sound. As a way of thinking about and approaching the issue of declining finite resources, Hubbert was a pioneer. But that does not mean his predictions were accurate.¶ The problem for anyone trying to predict future resource availability is discerning the initial starting amount of a resource such as oil when one cannot readily see or gauge accurately the resource. This lack of transparency presents huge opportunities for error, in particular, erring on the side of under estimation of the total resource. And time has consistently shown that under estimation of total resource is the most common error, and as we shall see this is exactly the error that Hubbert made with regards to his estimates of our remaining oil and gas reserves. Hubbert can be forgiven because new technology can make previously unavailable resources accessible, even less expensive to exploit. In fact, he even anticipated this to a degree in his paper, another point that Hubbert’s admirers today tend to overlook.

# Aff

## **Prices 2AC**

#### Prices dropping now, economic downturn elsewhere will make a price drops inevitable

Money Marketing July 5, 2012 Scraping the barrel? SECTION: NEWS; Pg. 22

With oil prices dropping, Joanne Ellul explores if it is a good time to invest

The price of oil fell below $90 a barrel last month and it continues to hover around $93, causing investors to question their commodity holdings. The spot price of Brent oil fell from a peak of just over $126 a barrel on March 13 to just below $89 a barrel on June 21, the lowest price since December 2010. It was trading at $92.9 a barrel on June 28. The slide is largely due to slower economic growth in China, the main consumer of oil, and the eurozone sovereign debt crisis, which has caused growth in the area to slow. Another factor is the supply of oil, which has increased in recent months. In March, Saudi Arabia increased its oil production as the oil price reached highs to drive the price downwards and cover any shortfall in the world supply caused by Western sanctions on Iran, which reduced its exports. Bestinvest senior investment adviser Adrian Lowcock says there is a risk that the oil price will fall further. He says: "Oil price is an indicator of economic growth and that is why we have seen falls in the price. If there is further deterioration in the global economic recovery, then we could see further falls." Lowcock says the oil price could fall further if the eurozone crisis continues to impact on growth in the area. He adds the strength of economic growth in the US and China is looking less certain.

#### High oil prices lead to economic slowdown for nations and create global social unrest

Whipple, 12/11 (Tom Whipple - one of the most highly respected analysts of peak oil issues in the United States. A retired 30-year CIA analyst who has been following the peak oil story since 1999, “The Peak Oil Crisis: 2012 – Apocalypse Now?”, http://www.postcarbon.org/article/638272-the-peak-oil-crisis-2012)

While most attention has been paid to refinancing debt, persistently high oil prices are gaining increasing recognition as a major factor in slowing economic growth. While high oil prices coupled with new technologies have brought forth new sources of oil, most commentators ignore the fact thatthis "new" oil in simply unaffordable in today's economies. The older cheap stuff that we have been living on for the last century still makes up about 75 percent of our daily consumption, but, and this is a big but, the cheap oil is disappearing at the rate of 3-4 million barrels a day (b/d) each year. In 20 years cheap oil will be largely gone, replaced by unaffordable "unconventional oil," if we can raise enough capital to exploit the stuff. Recent economic research shows that when the U.S. spends more than 4.5 percent of its GDP on oil, it goes into recession. Although there is some debate on how to calculate the price at which oil prices seriously damage the GDP, some say $90 a barrel will do nicely. Keep in mind that oil has been selling in most places for over $100 a barrel during 2011 and shows no signs of retreating very much in the near future.¶ ¶ The second set of problems likely to explode in 2012 is the political instability. The most serious is in the Arab world, but as demonstrations in Moscow, China, Kazakhstan, Europe, and even mild ones on Wall Street show, social unrest is turning into a worldwide problem as resources become constrained and economic growth slows. Mankind now has seven billion mouths to feed and these are increasing by 70 million each year. There is going to be a turning point, the only question is when?¶ ¶ Unrest and various geopolitical confrontations have already reduced or eliminated oil exports from Libya, Yemen, and Syria this year. Efforts to sanction Iran seem to be picking up steam and the oil markets are nervous that many countries soon will be forced to stop buying Iranian crude. The Syrian situation continues downhill and the delicate Iraqi political balance that was crafted by the US appears to have lasted for only a few days after the last US troops were withdrawn. It is a good bet that there is going to be less oil exported from the Middle East and possibly Central Asia by the end of next year - raising oil prices despite deteriorating economic conditions.¶ ¶ On top of an emerging global economic downturn and the prospects for less oil from the Middle East, we have the United States where the electorate seems to have voted itself into political gridlock while seeking to vote for better times. It seems likely that very little in terms of improving economic policies will be accomplished in Washington until another election or two takes place and the electorate can sort out some sort of coherent path for the country. Until then a large case of fiscal austerity and more unemployment will be the order of the day.¶ ¶ The case for major new troubles starting in 2012 rests on the likelihood of the collapse of much or all of the Eurozone and increased turmoil in the Middle East. The interesting part of this scenario is both of these situations can come about in numerous ways. This of course increases the chances markedly that something very bad will indeed happen soon.

#### Wallstreet is predicting $50 oil, Europe and overproduction problems are the cause

Amy Myers Jaffe is an energy consultant and the Wallace S. Wilson Fellow for Energy Policy Studies at Rice University, June 15, 2012 “Guest Column: Yes, Oil Prices Are Cyclical,” http://green.blogs.nytimes.com/2012/06/15/guest-column-yes-oil-prices-are-cyclical/

The latest round of briefing papers on oil published over the last week on Wall Street is a testament to how quickly things can change when it comes to oil prices. Less than a few months after Brent crude prices topped $125 a barrel, Wall Street is suddenly predicting a possible collapse in oil prices to $50 a barrel. The forecasts, which may or may not prove to be correct, reflect more than just a cloudy economic outlook for Europe. There appears to be a definitive shift brewing in long-range perceptions about future oil supplies. With the shale oil boom promising over one million barrels a day of new oil production within a year in the United States, analysts are coming out of the woodwork to embrace falling oil prices. The new word on the street when it comes to oil is “sell.” Already, the long oil price, that is, futures prices going out past a year, has fallen to $85 a barrel, down from over $100 a barrel earlier this year. Citigroup Global Markets took the lead last week with predictions of a cyclical shift that could cause prices to slide in the long term to as low as $50 a barrel. In their latest publication, “Zeroing In On the Long-Term Oil Prices,” Citi analysts state: “Signs are abounding that the escalation in upstream capital spending is bearing fruit, with a surge in discoveries and reserve bookings that is already being converted into new production, particularly in North America. “There are no reasons to believe the supply boom in Canada and the United States is about to end,” they write. “To the contrary, it appears likely to start spreading across the world.” Citigroup points to a new peak in upstream capital expenditures and the likelihood of a further cost deflation in shale oil economics as potential indicators of a cyclical downturn. “Current shale oil economics are in the $50-to-$80-a-barrel range,” the analysts write. “But as technology continues to mature, there is the likelihood of further cost deflation.” This week Credit Suisse is singing a similar song. “Critically different in the narrative around the current oil market view is a simply bearish view of global economic growth that combines with a positively sanguine view of supply,” its analysts write. In the latest issue of its Oil Sense report, Credit Suisse also suggests a severe credit crunch from Europe, against the backdrop of cheaper shale oil prices, could deflate oil prices to $50 a barrel. Oswald Clint of Sanford Bernstein is hailing Russia’s Bazhenov shale as a formation that will dwarf North Dakota’s, and bloggers are noting that the state of California has enormous shale oil reserves of 24 billion barrels. Barclay’s is more sanguine, expecting stabilization at recent lows below $100 for Brent crude but issuing a similar warning to those who might want to bet that oil prices are about to go back up. In the short term, oil prices may or may not gyrate in coming weeks in response to events in the Middle East. But the change from Wall Street’s previous obsession with rising oil prices prompts me to say “I told you so” to friends and confidants from the Middle East who thought prices were bound to stay structurally high based on the expectation that the end of “easy oil” would force investors to shift to more costly oil plays. As in past decades, technology is increasingly upending fears of impending oil scarcity, causing the costs of unconventional oil and gas development to fall dramatically. Indeed, the technology costs of converting one form of hydrocarbon to another and the costs of providing alternative automotive engine technologies are also likely to fall. So I feel at peace with my original contention that, in the long run, oil prices are cyclical, and that high prices invite the creation of new technologies, ensuring that the upswing of the cycle is eventually followed by the downward slope. That is the lesson of $147 oil. It propelled shale oil technology and drilling more rapidly than anyone expected. And if you top off shale oil technology with the arrival of more fuel-efficient car technology, ditto on the possibility that oil prices will moderate over time. Experienced futures brokers like Andrew Lebow of Jeffries Bach agree: Shale is already taking the wind out of the sails of long-term oil futures prices.

#### Economic recession and Chinese consumption drop will lead to a glut

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

In particular, a new world-wide economic recession, a drastic change in Chinese consumption patterns, or a sudden solution to major political tensions affecting a major oil producer (such as Iran), could trigger a major decrease and even a collapse of the price of oil. By collapse, I mean a fall below $50 per barrel for one year.

#### Shale and “tight” oil are resilient to price drops

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

Despite their complex features, most of U.S. shale and tight oil are profitable today at a price of oil (WTI) ranging from $50 to $65 per barrel, thus making them sufficiently resilient to a significant downturn of oil prices (for conservative reasons, however, I used a long-term price of WTI of $70 per barrel to make my evaluations about the future U.S. shale/tight oil production).

#### Market instability inevitable – investment arguments are incoherent

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

The oil market is already adequately supplied. Global oil spare capacity (the difference between the world’s total oil production capacity that can be reached within 30 days – and sustained for 90 days – and the actual global production), is probably at about 4 mbd, absorbing a major disruption from a big oil producer such as Iran. In fact, the mere dynamics of supply, demand, and spare capacity cannot explain the high level of oil prices today. At more than $100 per barrel, the international benchmark crude Brent is $20 to $25 above the marginal cost of oil production. Only geopolitical and psychological factors (above all, a major crisis related to Iran) and a still deep-rooted belief that oil is about to become a scarce commodity, can explain the departure of oil prices from economic fundamentals. Coupled with global market instability, these features of the current oil market will make it highly volatile until 2015, with significant probabilities of an oil price fall due to the fundamentals of supply and demand, and possible new spikes due to geopolitical tensions. This will make difficult for financial investors to devise a sound investment strategy and allocate capital on oil and gas companies.

#### **OPEC will goldilocks prices after the plan**

Daily Green , September 25, 2011 “OPEC's Goldilocks Price of Oil

Why has the price of oil been inching (or shooting) up for a decade?” http://www.thedailygreen.com/environmental-news/blogs/republican/opecs-oil-price-0911

The Organization of Petroleum Exporting Countries seeks a Goldilocks price of oil - not too low, ensuring a hefty flow of dollars into cartel member treasuries - and not too high, ensuring that the cartel doesn't crash the economies of its customers and collapse demand.

Came across an interesting commentary from energy economist Ferdinand Banks explaining why the Goldilocks price of oil has been moving upward since the early part of the 2000s (or the 'oughts if you like). His argument is that OPEC has taken advantage of market shifts to exert greater control over prices.

According to Banks, OPEC follows a long-range strategy of producing as little oil as it can get away with. The longer cartel members can keep oil in the ground, the more oil they can save for later use in making and selling high-value petrochemicals as an economic diversification strategy.

Here's what changed in the early 'oughts: Around 2003 and 2004, surging economic growth in China and India began pushing up oil demand, like an updraft lifting a balloon on a hot summer day. It was the opportunity of the century for OPEC. With demand outrunning supply, OPEC was in a stronger position to leverage up prices to a higher price point, as Banks contends the cartel accomplished following the late 2008 price plunge, when the per-barrel price dropped from $147 to $32. At that time, OPEC sliced production and prices doubled back up to around $75 per barrel, even as the economy was dropping like a brick.

Don't spend too much time obsessing over speculators, Banks argues. Speculators making bets on oil price movements are following, not leading the market. Traders do not have to be "particularly smart," he wrote. "What they had to do to make serious money was to recognize that demand was outrunning supply, and one of the reasons is OPEC and its agenda becoming the determining factor on the supply side of the oil market, which is still the case."

#### Goldilocks is less than 80, more than 60 – anything higher risks global economic collapse

Richard Heinberg ,”How markets may respond to resource scarcity: The Goldilocks syndrome” Feb 21 2011, http://www.energybulletin.net/stories/2011-02-21/how-markets-may-respond-resource-scarcity-goldilocks-syndrome

By mid-2009 the oil price had settled within the “Goldilocks” range—not too high (so as to kill the economy and, with it, fuel demand), and not too low (so as to scare away investment in future energy projects and thus reduce supply). That just-right price band appeared to be between $60 and $80 a barrel.[7]

How long prices can stay in or near the Goldilocks range is anyone’s guess (as of this writing, oil is trading in New York for over $90 per barrel), but as declines in production in the world’s old super-giant oilfields continue to accelerate and exploration costs continue to mount, the lower boundary of that just-right range will inevitably continue to migrate upward. And while the world economy remains frail, its vulnerability to high energy prices is more pronounced, so that even $80-85 oil could gradually weaken it further, choking off signs of recovery.[8]

In other words, oil prices have effectively put a cap on economic recovery.[9] This problem would not exist if the petroleum industry could just get busy and make a lot more oil, so that each unit would be cheaper. But despite its habitual use of the terms “produce” and “production,” the industry doesn’t make oil, it merely extracts the stuff from finite stores in the Earth’s crust. As we have already seen, the cheap, easy oil is gone. Economic growth is hitting the Peak Oil ceiling.

## A2: Saudi Flood

#### **OPEC can’t reduce prices, security is driving up oil costs**

The National March 14, 2012, “Opec worries over high prices,” lexis

But reaching into Opec's spare capacity, most of which is held by Saudi Arabia, would not be effective in driving down prices, he added.

The price rise stems from geopolitical concerns rather than a supply crunch, said Sadad Al Husseini, the founder of the consultancy Husseini Energy in Riyadh. "People keep looking for Opec to somehow fix everything, but it's out of Opec's hands," said Mr Al Husseini, the former head of exploration and production for Saudi Aramco. "It's a much bigger problem than Opec. It's not a shortage of supply, it's insecurity that is driving up prices. "You cannot go around rattling sabres and talking about bombing and expect the rest of the world to march on calmly."

## A2 Adaption

#### Adaption is wrong, consumer rationality is delayed by life habits – family credit will run out and the economy will tank

The Business Insider “What Most Economists Get Wrong About The Rise In Gas Prices” March 6, 2012

What is generally wrong with the analysis is the context from which the assumptions are made. What experience teaches us is that there is a lag effect between the consumer and higher oil and gasoline prices. Unfortunately, most economists, analysts, and investors fall victim to the "immediacy trap". The trap is assuming that just because an uptick in oil and gas prices doesn't create an immediate downtick in retail spending - "this time must be different." In reality, what experience teaches us, is that there is lag effect between the direction of oil and gas prices and retail spending. Why, because of human nature. When the price of anything moves in one direction or another - consumers do not immediately change their habits. Prices have to flow through the system to impact the consumer and this takes time. Individuals, for the most part, are creatures of habit. For example, if the price of a particular brand of beer rises the consumer will continue to purchase that brand of beer until the prices rises to a point where it pushes them into having to sacrifice something else. Only then will they consider changing brands or cutting back the purchase. Unfortunately, increases in oil and gas prices impact the the family budget on a large scale basis as the cost of a certain standard of living rises globally. For clarity purposes I have annotated the chart of oil prices and real retail food and service sales with numbers corresponding with my explanations below. 1) 1993 to 1997 oil prices increase. The stock market rally, combined with increases in consumer credit, was creating an artificial wealth effect for consumers which allowed them to increase consumption. However, while retail sales remained positive on a year-over-year basis, sales began to slow as oil prices weighed on family budgets. 2) 1997 to 1999 oil prices decline. As the stock market began to launch into overdrive, with the technology boom going into the turn of the century, retail sales began to rise as oil prices declined. The increases in perceived wealth combined with extra cash left in the wallet, retail sales, along with confidence, improved. 3) 1999 to 2001 oil prices jump. As oil prices turned back up in 1999 and exploded into early 2000, along with the stock market, retail sales sustained advances for a while until the sustained increases in pricing pressures impacted the consumer. The Fed, concerned at that point with the "inflation boogyman", Fed raised interest rates. Rising interest rates, along with rising commodity prices, impacted consumers and retail sales declined sharply. 4) 2001 to 2003 oil prices slump. As the shock of terrorist attacks and the impending war in Iraq loomed over the economy - retail sales continued to decline even as the back of oil prices was broken. Finally, at the bottom of the recession in 2002, the economy began to regain some traction as interest rates were lowered and the crisis of confidence from the flagging stock market and terrorist attacks subsided. In order to ensure the recovery The Fed and Wall Street then turned their full focus on the housing eventually starting a massive bubble in real estate and once again creating a wealth effect for consumers. 5) 2004 to 2009 oil prices relentlessly climb. With Alan Greenspan's endorsement of adjustable rate mortgages in early 2004 the real estate race was on. Banks allowed to credit to flow to anyone that could manage to fog a mirror and, in some cases, even that standard was worked around. As banks and brokerage firms, which were brought together by the repeal of the Glass-Stegall act in 1999, the speculation in real estate, mortgage backed securities and the stock market was once again revived. Speculative money flowed into the commodities markets driving oil and gasoline prices relentlessly higher but the consumer, more than willing to play the game of mortgage equity extraction, spent like drunken sailors through early 2006. However, even a booming economy could not withstand the continually rising input costs. Retail sales began to flag early throwing off warning signs of trouble ahead. However, mainstream analysts and economists kept touting that it was nothing to worry about - it would be a "soft landing scenario" and a "goldilocks economy." Well, we know now how this story ended. 6) 2009 to 2010 oil prices rebound. With the introduction of bailouts, quantitative easing and massive governmental intervention on a historic scale - the financial markets staged an impressive rebound. The massive amounts of liquidity sloshing around in the financial markets quickly found their way back into the stock market as well as the speculative, highly liquid and leveraged commodities markets. Oil prices staged a sharp recovery, driving gasoline prices higher with it. Retail sales also recovered as the pent up demand from the recession from consumers flowed back into economy not only filling current requirements, but as with "cash for clunkers", pulled forward future demand. 7) 2010 to Present oil prices persistent push. As quantitative easing, home tax credits, cash for clunkers and other programs ran out in summer of 2010 - oil prices pulled back as liquidity was extracted from the options market. Retail sales slumped simultaneously this time due to an immediate impact for the lack of capital. However, it wasn't long before the Fed realized this dilemma and implemented QE 2 to "increase asset values to spur consumer confidence" in the late summer of 2010. Retail sales immediately recovered as the stock market once again surged but it was short lived as the economy was impacted by the Japanese earthquake, fears of a U.S. default and an European crisis ran the media headlines. Even the brief decline in oil prices in the summer of 2011 did little to spark retail sales. With oil prices now pushing higher once again the year-over-year deterioration in retail sales in accelerating. The point here is that experience teaches us that the consumer can continue to purchase items in the face of rising costs - at least for a while. Eventually, the finite amount of disposable income that is available for consumption by the average family has its limitations. This is very much a point of concern that is being readily dismissed by the media. The"immediacy trap" is that while the month to month data may be positive - the trend of the data can be deteriorating. The current negative trend in retail sales is such a case and point. While the media makes prognostications that the consumer can weather higher oil and gasoline prices "this time" - the reality is that the trend of the data already says otherwise. Eventually, this deterioration will show up in corporate profits as the consumer is squeezed between stagnant incomes and rising price pressures. Furthermore, the recent rise in oil prices compared to the magnitude of decline in retail sales is very similar to the 1999-2001 period. The current rise in stock market prices, created once again by mass injections of liquidity, is creating an artificial wealth effect. That wealth affect may account for the recent increases in consumer credit of $40 Billion in the last two months of 2011. However, even as consumers tapped credit lines in order to just maintain their current standard of living, the level of retail sales has remained stagnant, as real disposable personal incomes declined. Not only is the increase in credit, without a subsequent increase in consumption, a sign of strain on the American consumer; but they shifted from buying new goods to used goods in recent months in a big way. An era of "frugality" has impacted the average American home and with high unemployment, underemployment and wage pressures weighing on the family budgets - cost increases hit home much faster than in past years. The media has once again fallen victim to the "immediacy trap". Just because the recent rise in oil and gasoline prices haven't already caused a recessionary drag on the economy then, obviously, this time must be different. Experience teaches us that "this time is never different" and that it is only a function of time before increases in oil and gasoline prices, if sustained, will grind the economy to a halt.

## Russia

#### Russia is fine, they can adapt and a lowered ruble leads to more exports

OGN July 9, 2012, “Crude price slide highlights risks to Putin's Russia” Oil and Gas News, LN

"In the short term, in the next one to three years, we are fine," says Tchakarov.

He noted that according to Finance Ministry calculations, every one dollar fall in the oil price means that the government loses around 55 billion roubles ($1.7 billion) in oil-related taxes over the course of a year. With the budget presently balancing at around $115 per barrel, an oil price of $90 per barrel, if sustained over a full year, would leave the government short to the tune of around $40 billion a year. But that is still just a fraction of the $185 billion that Russia has stashed away in two fiscal reserve funds, designed to stabilise the budget in just such an emergency.

Even at $60 per barrel - the average oil price during the crisis year of 2009 - the reserve funds could cover the shortfall for about two years.

"I find this worrying about the budget at this moment a little beside the point," says Clemens Grafe, chief Russia economist at Goldman Sachs.

"The fiscal buffers they have to absorb this are going to be sufficient without cutting expenditure."

Analysts also point out that since the previous financial crisis in 2008-2009, the central bank has radically changed the exchange rate regime, allowing the rouble to fall in line with the cheaper oil price. Since oil began its latest slide in mid-March, the rouble has lost around 15 percent of its value against the dollar.

"The rouble weakened exactly in line with the oil price. And a weaker rouble is very good because it will secure the rouble equivalent of oil taxes for the budget," says Evgeny Gavrilenkov, chief economist at Troika Dialog.

## Oil Consumption Uniqueness: Down

#### **US oil consumption going down now**

The Business Insider, July 6, 2012 Friday 2:25 PM EST, “Lower Oil Prices Are Definitely Not Good News”

US oil consumption shrank by 3.2 percent, comparing the first four months of 2012 with a similar period of 2011. This is concerning, because based on Figure 5, it looks much like a repeat of the pattern that took place in the 2005 to 2009 time period. Oil consumption was stable during the period 2005 through 2007, then dropped in early 2008 by an amount not too different from the decrease in oil consumption from 2011 to 2012. The bigger step-down in oil consumption came in 2009, after oil prices dropped, and the follow-on effects (reduced credit availability, layoffs) had started. Now oil consumption has been relatively stable in 2009 to 2011, but there has been a step down in consumption in 2012, similar to the step-down in early 2008.

## Glut Now

#### Glut now - New capacity is outstripping demand

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

Contrary to what most people believe, oil supply capacity is growing worldwide at such an unprecedented level that it might outpace consumption. This could lead to a glut of overproduction and a steep dip in oil prices. Based on original, bottom-up, field-by-field analysis of most oil exploration and development projects in the world, this paper suggests that an unrestricted, additional production (the level of production targeted by each single project, according to its schedule, unadjusted for risk) of more than 49 million barrels per day of oil (crude oil and natural gas liquids, or NGLs) is targeted for 2020, the equivalent of more than half the current world production capacity of 93 mbd. After adjusting this substantial figure considering the risk factors affecting the actual accomplishment of the projects on a country-by-country basis, the additional production that could come by 2020 is about 29 mbd. Factoring in depletion rates of currently producing oilfields and their “reserve growth” (the estimated increases in crude oil, natural gas, and natural gas liquids that could be added to existing reserves through extension, revision, improved recovery efficiency, and the discovery of new pools or reservoirs), the net additional production capacity by 2020 could be 17.6 mbd, yielding a world oil production capacity of 110.6 mbd by that date – as shown in Figure 1. This would represent the most significant increase in any decade since the 1980s.

## A2: Loss US Jobs

#### US Jobs are resilient - shales are profitable above $50 barrel

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

The natural endowment of the initial American shale play, Bakken/Three Forks (a tight oil formation) in North Dakota and Montana, could become a big Persian Gulf producing country within the United States. But the country has more than twenty big shale oil formations, especially the Eagle Ford Shale, where the recent boom is revealing a hydrocarbon endowment comparable to that of the Bakken Shale. Most of U.S. shale and tight oil are profitable at a price of oil (WTI) ranging from $50 to $65 per barrel, thus making them sufficiently resilient to a significant downturn of oil prices. from shale. After considering risk factors and the depletion of currently producing oilfields, the U.S. could see its production capacity increase by 3.5 mbd. Thus, the U.S. could produce 11.6 mbd of crude oil and NGLs by 2020, making the country the second largest oil producer in the world after Saudi Arabia. Adding biofuels to this figure, the overall U.S. liquid capacity could exceed 13 mbd, representing about 65 percent of its current consumption.

## A2: US Modelled/Tek Key

#### US development boom will be unique – other states don’t have the ingenuity of a strong private sector

Leonardo Maugeri, One of the world’s foremost experts on oil, gas “Oil: The Next Revolution The Unprecedented Upsurge Of Oil Production Capacity And What It Means For The World,” June 2012 The Geopolitics of Energy Project, http://belfercenter.ksg.harvard.edu/files/Oil-%20The%20Next%20Revolution.pdf

Before examining the extent of the shale/tight oil revolution in the U.S., it is worth noting that it is not only the result of a huge resource endowment, but it also stems from the uniqueness of some features of the U.S. oil industry and market, which make it difficult to be replicated in other areas of the world – at least in a short period of time.

First of all, in the U.S., individuals and companies may own property rights on mineral resources, while in most parts of the world these rights belong to states only. This fact gives a huge incentive to land owners to lease their property rights and to the oil industry to lease or buy them.

Another major feature of the uniqueness of the U.S. and Canada is the presence of thousands of independent oil companies, ranging from very small to multibillion companies, that historically played the role of pioneering new frontiers.

The strategies and business models of these independent companies are usually much different from those of the large, integrated multinational oil companies, and require a short digression.

Oil independents typically search for high risk-high reward opportunities whose potential is uncertain and whose initial development cannot comply with the rigid financial criteria used by big oils for taking investment decisions. Moreover, most of these companies, oftentimes owned by a single person or a small group of partners, are mostly focused on cash flows and growth, rather than profits and high profitability, at least in the first stages of their development.

As long as they are successful in their undertakings while being cash-positive, they will succeed in getting the money they need to grow their business. Eventually, they can decide to sell their entire business to larger independents or bigger oil companies, as well as to go public. Their time-frame for success, thus, is much shorter than that of big multinational oil companies: they couldn’t afford the be cash-negative for long periods of time, otherwise their investors could stop supplying money; they cannot be unsuccessful in their growth-strategies, otherwise they cannot make money by selling part (of all) of their equity. Although highly innovative, then, oil independents usually do not do not engage in proprietary technology development (an exception is represented by larger independents), but they apply or adapt existing technologies in innovative ways to new targets, improving their processes and applications, thanks to the help of oil service companies (such as Halliburton or Schlumberger) that are the real owners of technological know-how in the oil and gas sector.

Another feature of the U.S. (and Canada) oil and gas sector is the presence of several financial institutions, funds, capital ventures, equity firms that are eager to fund independent companies, oftentimes by becoming their equity partners.

A final, unique feature of the U.S. (and Canadian) hydrocarbon arena is the broad availability and flexible market of drilling rigs and other essential tools of oil exploration and production. For instance, the U.S. and Canada have about 65 percent of all drilling rigs existing in the world.

All these features are foreign to other parts of the world, and they make the U.S. and Canada a sort of unique play for experimentation and innovation, such in the case of U.S. shale oil and gas or Canadian tar sands.

## A2: Maugeri

#### Maugeri production decline estimates are overly optimistic

EuanMearns on July 11, 2012 (<http://www.theoildrum.com/tag/depletion_rate>)

¶ If we replace Maugeri’s 1.6% decline rate assumption with the IEA estimate of 4.1%, the projected loss of production capacity over the period to 2020 increases from 11 mb/d to 26.5 mb/d. In turn, the projected global production capacity in 2020 reduces from 110.6 mb/d to 95.1mb/d (a reduction of 14%). Since average decline rates would be expected to increase over this period, this projection must be considered optimistic.¶ The bottom line is that Maugeri has made some very optimistic assumptions about global average decline rates, failed to provide adequate justification for them and misrepresented the estimates made by others. Adopting more realistic estimates would significantly change his results