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Iranian Oil , Gas & petrochemical Products Exporters Union

Foreign companies reassessing their place in Iranian market

Petroleum Reserve to Cut Import-Shock Risks: **Corporate India**

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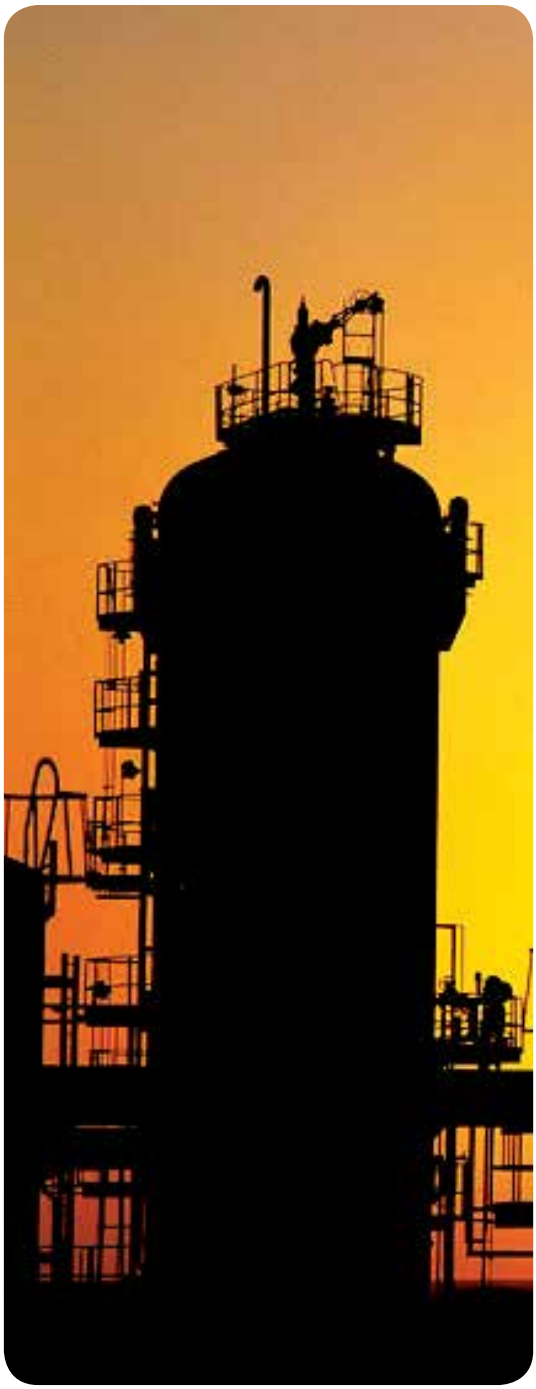
ENERGY WORLD

Iran launches Mideast's largest LNG storage facility

Iran plans to boost its natural gas production by 200 million cubic meters until March 2016 in order to eliminate the need to import Turkmen gas.

Iran announced the launch of the Middle East's "largest" liquefied natural gas storage facility in country's northeast bordering Turkmenistan at an inauguration ceremony Sunday.



The liquefied natural gas (LNG) storage facility named "Shourijeh" can supply 4.8 billion cubic meters of natural gas and aims to reduce gas imports from Turkmenistan.

Iran plans to boost its natural gas production by 200 million cubic meters until March 2016 in order to eliminate the need to import Turkmen gas.

Turkmenistan supplies 5 percent of Iran's gas demand

The facility will provide 20 million cubic meters of gas storage per day in winter and 10 million cubic meters of gas in summer, state news agency IRNA reported. In terms of volume, 20 million cubic meters of gas could fill roughly 80 thousands Olympic swimming pools. In comparison, 50 billion cubic meters of natural gas is slightly more than Turkey's entire annual consumption in 2012.

Seasonal natural gas supply shortages in winter occur in Iran mostly because of the delay of the South Pars project which is located in the Persian Gulf and shared with Iran and Qatar. Additionally, Iran's natural gas imports declined by 50 percent in 2012 compared with the previous year, reflecting that lower volumes are being imported from Turkmenistan because of U.S and EU sanctions on Iran's financial transactions.

Iran is now the Middle East's leading country in terms of gas storage capacity.

The country has the largest volume of trade exchange with Turkmenistan after Russia.

Turkmenistan's main exports to Iran are oil and petrochemical products.

Iran holds some of the world's largest deposits of natural gas with an estimated 33 trillion cubic meters of gas reserves, ranking fourth in the world for gas reserves, and the second-largest natural gas reserve storage facilities world-wide, according to the BP statistical review of world energy published in June 2014. ■

BENCHMARKING FUTURE

By Khashayar Ataie, Iran's Benchmarking Network, International Affairs
September 2014

As Dr. Robert Camp (known as the father of benchmarking) defines, benchmarking is the process of identifying, understanding and adapting superior practices from organizations locally and worldwide to help your organization improve its performance and achieve priority business results. This inclusive definition encompasses all of the facets of this managerial tool in precision. However, Dr, Robin Mann, Center of Organizational Excellence Research, Massey University, New Zealand, and the president of the Global Benchmarking Network, offered a simpler definition in 2011: "Benchmarking is learning from the experience of others!" In other words, benchmarking thrives to locate and mark where others do things better and offers a mechanism to learn from them.
In retrospect, Dr. Camp foresaw in 2007 the following in the future of benchmarking:

- Less formal, done faster, less cost
- Distributed and networked environment
- Real-time interactive meeting technology
- Fewer site visits, electronic with desktop video
- Information sharing unique to competitive markets
- Pre-packaged, best practice learning, case studies

We are so excited to have availed an opportunity to realize this and celebrate the contribution of "Best Practices" at the 1st International Conference on Benchmarking on 11th, 12th October 2014, Tehran, Iran, by creating a schedule packed full of leading edge resources, expert presentations and networking opportunities.
This conference is aimed to inspire, motivate, and educate managers on how to improve the positive influence they have on the performance, workplace and people around them.
We've invited the Best-In-Class Benchmarking Experts from around the globe such as the US, the UK, Netherland, Turkey, Ireland, India, Singapore and the UAE to share their touch of benchmarking in their adventurous business excellence journeys with us. The composition of our guests is meticulously aligned with the purpose of the conference. More information about them is available on icb.irbn.ir.
This is a platform for idea exchange designed to provide profit-impacting information to senior executives, entrepreneurs, general managers and business excellence experts from a wide array of industries. Our goal is to help organizations and individuals improve their operations and tactics in order to impact bottom-line profits.
The conference is anchored with leading benchmarking presentations derived from the first-hand sources of experienced experts. These presentations opens perspectives on benchmarking and examples of associated risks such as problems with external benchmarking, political battles, lack of motivation, and inability to know what "good" is as well as copying the competitions strategy irrespective of the environmental conditions. It also explains types of benchmarking, why benchmarking is a powerful change management tool, and its importance to organizational and national socioeconomic performance.
As business leaders understand, the ability to quickly adjust to new volatile conditions and continually improve operational efficiency through learning from best practices is a must.
The core of this conference will address Learning Experience, Big Data boom and Social Media, Innovation, Change Management and Adaptability, Sustainability in terms of Environmental and Social Initiatives, and Value-Centric Customer Focus with over 400 regional and international professionals expected to meet.

Learning Experience

Combining "learning from others" with "your own experience and ideas" leads to innovation. Benchmarking provides an exciting opportunity to not only learn from others in your industry but also from best in class organizations from other industries in a generic fashion. It's time to think big! One needs to think out of the box to become creative and innovative.
A big part of benchmarking is the learning process and how people learn and how this can be transferred to organizational learning. Cultural context is also an important factor in learning style. Considering this, the conference, in a part, will address Enhancing the Philips brand through a unified business excellence approach and sharing of best practices between organizational units.

Big Data Boom and Social Media

In this dotcom boom, new real-time benchmarking tools, online platforms and libraries and web-based solutions facilitate the communication, networking, learning and sharing. This phenomenon has affected us in so many ways and this influence is rapidly developing throughout the world.

Innovation & Global Competitiveness

The prime objective of benchmarking is to understand those practices which will provide a competitive advantage in the market place; target setting is secondary."
Paul Allaire,
Chairman, Xerox Corporation

In a fast changing global environment it is crucial to take innovative initiatives such as benchmarking to remain resilient and competitive. Companies need to determine enablers that are pivotal to consistent implementation of growth plans and boost productivity. This helps to improve economic policies and execute institutional reforms. These enablers can be recognized through the study of Critical Success Factors (CSFs). For instance, Xerox pioneered the modern approach to benchmarking leading Xerox to win the Baldrige and EFQM awards. We will showcase their journey, the Xerox benchmarking process, and real world challenges faced. Richard Cross, a former Xerox quality manager will highlight what has changed, what has stayed the same in the world of benchmarking and how one can maximize on the value and change from benchmarking activities.

Change Management, Adaptability and Sustainability in terms of Environmental and Social Initiatives

Organizations need to be adaptable to change and operate in a sustainable manner to minimize adverse environmental and social impacts. Managing change and meeting the high demands of customers is a constant challenge that can be addressed through benchmarking. Key Factors for Successful Change. There are three steps according to Dr. Camp to benchmarking:

- Believing there is a **NEED for change**
- Determining **WHAT you want to change**
- Developing a **PICTURE of what you** want to look like after the change

Best Practice Benchmarking is the comparison of performance data that has been obtained from studying similar processes or activities and identifying, adapting, and implementing the practices that produced the best performance results". It is useful for "learning from the experience of others" and achieving breakthrough improvements in performance, Dr. Robin Mann, Dubai, 2010.

Value-Centric Customer Focus

It is the orientation of an organization toward serving its clients' latent needs and values. Having a customer focus sheds light on the path towards excellence and makes explicit exactly what customers do and do not value. Achieving a customer focus is not a one-size-fits-all solution. Value needs to flow between the different actors in a business and many business leaders are considering using the idea of a customer focus to ramp up business and appeal to their client base. The emergence of green products and their development in recent years is an example of this approach.

There will also be a recap on "Benchmarking Lean", which takes into account applying "Lean Best Practices". Within our conference, there will be experiential-based comparison between the Toyota and General Motors operating systems and how copying tools without understanding underlying concepts can derail improvement efforts. Then, it will continue with a critical and often underestimated components of Team Engagement and People Development in the lean enterprise and will explain about Leadership Behavior as a fundamental differentiator in business performance. This will be an overview of the Lean Management System and key principles as well as practical tips how to embark on an improvement journey.

A survey by GBN has shown that benchmarking will outperform other managerial tools such as Six Sigma and ISO standards in future. The benefits of benchmarking are as follows:

- Lead organization out of its rigid framework
- Increase awareness about performance in comparison with competitors
- Challenging
- Better understanding of business
- Reference for performance measurement

The conference is organized by Iran's Benchmarking Network and Dr. Mann, the chairman of the Global Benchmarking Network. Iran's Benchmarking Network (IRBN) is a wing to Intelligent Persians Corporations (IPC Group). This network is aimed to help its members develop their approach use benchmarking tools in a professional manner. Focusing on best practice sharing and learning, IRBN's mission is to improve cognitive abilities, increase creativity and innovation, and promote the culture of modesty and learning from better practices. Global Benchmarking Network (GBN) is a global network of organizations and experts focused on promoting and facilitating the use of benchmarking and sharing of best practices by helping each other, and working together.

We've taken our step. We've decided to help to change, do better and make better. Nietzsche says: "The snake that cannot slough its skin perishes. Likewise spirits which are prevented from changing their opinions; they cease to be spirits."

ataie@ipcgroup.ir

India exhibition is an opportunity to introduce the capabilities of Iranian companies o

Public Relations Manager of gas and petrochemical industries in Iran, said the officials of the union attend the Eighth International Exhibition of India's chemical and petrochemical industries and with its the member companies .

M. Tarmyan stating that the exhibition will be held from 17 to 19 September in Mumbai,he added, This exhibition is an opportunity to introduce the capabilities of Iranian companies in public and private companies of India. He said that about 350 square meters of exhibition space devoted to the Islamic Republic of Iran.

Meetings between businessmen of the two countries are for increasing trade and export development policy.

Tarmyan said: involvement of large companies such as Union Petrochemical Commercial Company, Petrochemical shazand, Isfehan petroleum, Zagros petrochemical,Fanavaran petrochemical, Pasargad Oil, Chemical Dorsalaf, Espenta Kish and other manufacturing companies show the importance of trade in the international arena and to expand the purpose of ultimately increasing the volume of exports of petroleum products .

He claimed Iranian Private Sector thoroughly try to improve economic atmosphere of the country. He added that they are trying to help the government to create a new path for the development of export promotion. He said Oil Exporters Association which is the country's largest private sector union has Turnover of approximately 15 billion dollars annually and is responsible to covered about 300 manufacturing company's oil products and exports.

Tarmyan said member companies are responsible for one third of non-oil exports which this number in the first 5 months of this year grew by 7 per cent, respectively. He pointed out that the Union plays an important role in preventing the development of non-oil exports and exchange technology into other countries. He added developing Target markets and increase exports by specific tools are expandable that we should mention we could holding of conferences and seminars, participation in international exhibitions, as well as introduction of private sector capabilities in developing exports of oil products mentioned Choir.

Petroleum Reserve to Cut Import-Shock Risks:

Corporate India

India will be ready to fill its first strategic crude oil reservoir by the end of the year, the head of the project said, advancing Prime Minister Narendra Modi's goal to shield Asia's second-largest energy user from supply shocks.
Two more storage facilities on the west coast are likely to be finished by the second half of 2015, Rajan K. Pillai, chief executive officer of Indian Strategic Petroleum Reserves Ltd., said in a phone interview from a New Delhi suburb yesterday. The first reservoir is at Visakhapatnam in Andhra Pradesh state.
India imports more than 80 percent of its crude, and the government wants to protect Asia's third-biggest economy from supply interruptions caused by calamities or political crises abroad. The three initial depots will have a combined capacity of about 39 million barrels, equivalent to 13 days of imports, Oil Minister Dharmendra Pradhan has said. The government plans to increase that to 90 days of imports by 2020.
"It's absolutely necessary for a big importer like India to have the oil cover to protect against any disruptions," said Amrita Sen, a London-based analyst with Energy Aspects Ltd., a research company. "Filling these tanks will be extremely expensive and given India's budgetary strength, it necessarily doesn't have the funds. It'll need foreign help."
An employee waits for customers at a Hindustan Petroleum Corp. gas station in Mumbai,... Read More
India spent $143 billion on crude oil imports in the year ended March 31. Those purchases represented 32 percent of India's total imports in the period, according to commerce ministry data.

$4.2 Billion

It will cost about $4.2 billion to fill the three reservoirs at an average Brent crude oil price of $108.01 a barrel this year.
To help reduce that number, the government plans to lease 15 million barrels of capacity in the reservoirs to companies including Abu Dhabi National Oil Co. and Kuwait Petroleum Corp., which they will fill at their own cost, Pradhan told parliament on Aug. 8.
That is likely to save the government about $1.6 billion, easing one burden as it aims to narrow the budget deficit to the lowest in seven years.
The price of Brent crude fell to $101.56 a barrel on Aug. 19, the lowest 13 months, after rising to this year's high of $115.06 a barrel in June. Prices may increase to $108 by the end of this year, according to the median of 31 analyst estimates compiled by Bloomberg.

Indian Oil

Indian Oil Corp. (IOCL) and Hindustan Petroleum Corp. (HPCL), India's federal government-controlled refiners, may be asked to help fill some of the capacity, Pillai said last October. ISPR was set up in 2006 to build the contingency storage. Hindustan Petroleum has already leased part of the Visakhapatnam cavern for storage, the company's refineries director B.K. Namdeo said.
The reserves "will always help us in times of difficulties and it is an initiative which is really required for a country of our size our consumption," Indian Oil Chairman B. Ashok said on Aug. 20.
Indian Oil shares rose as much as 1.9 percent to 387.85 rupees and traded at 384 rupees as of 11:01 a.m. in Mumbai. Hindustan Petroleum gained as much 1.4 percent in early trading before declining 1.1 percent to 461.30 rupees. The benchmark S&P BSE Sensex (SENSEX) index increased 0.3 percent.
About 85 percent of India's oil imports come from the Middle East and Africa.

Below Cost

The state-run refiners themselves depend on government money to earn profits. They are required by the government to sell fuel below cost to help curb inflation and make it more affordable in a nation where almost 70 percent of the 1.2 billion population lives on less than $2 a day.
Indian Oil and its units had 109.9 billion rupees ($1.8 billion) of cash and equivalents as of March 31, 26 percent less than a year earlier, according to data compiled by Bloomberg. Total debt rose 5.9 percent to 949.2 billion rupees.
The petroleum reserve adds India to the group of developed nations and China that have such facilities. The U.S. strategic petroleum reserve has a capacity of 727 million barrels, according to the Department of Energy. China, which imports more than half of its crude, had 141 million barrels of strategic storage capacity last year and plans to add a further 50.3 million barrels, according to data compiled by China National Petroleum Corp.
The storage reserve takes India closer to standards set by the Paris-based International Energy Agency, which mandates its members hold stocks equivalent to 90 days of imports.
State-run Engineers India Ltd. (ENGR) has already completed studies on building new caverns in four locations with a total capacity of about 92 million barrels, according to the oil ministry.
"It is critical for the Indian economy to have ample strategic storages, no matter who fills up the tanks," Pillai said. ■

An employee waits for customers at a Hindustan Petroleum Corp. gas station in Mumbai, India. Hindustan Petroleum has already leased part of the Visakhapatnam crude oil reservoir for storage, the company's refineries director B.K. Namdeo said.

Foreign companies reassessing their place in Iranian market

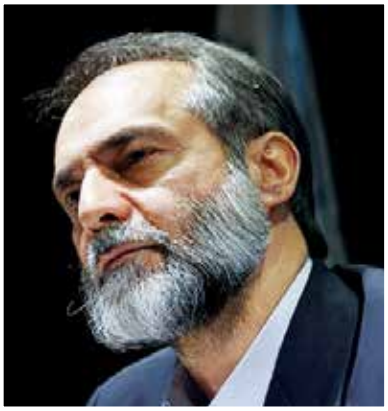
A member of board of directors of Tehran Chamber of Commerce and Industry has said trade experiences a new boost.

Mohammd Hossein Barkhordar interviewed by Energy World that foreign countries were seeking to redefine their place in Iranian market and that it seemed sanctions did not wield its initial intensity over the market.

"We receive signals from the foreigners indicative of easing sanctions gradually," said the official, and that "they have increased trade with Iran and have abandoned concerns over being fined for trading with Iran."

Barkhordar, who is the head of High Export Council, added that the economic conditions in many of EU countries along with Islamic Republic of Iran's strategic position and Rouhani's successful economic diplomacy, have worked to relieve the harmful effect of sanctions. "The government should channel resources unfrozen with ease of sanctions to economic infrastructures; in addition, it should use the opportunity to change the nature of trade agreements to attract foreign investments and technology transfer," he added.

He believed that an economic expert team should examine the US roadmap to ease sanctions on Iran regardless of diplomatic and political preoccupations so that "the government properly use the opportunities created thereby."



Future Bright for Iranian Petchem Firms

Director of strategic planning at Petroleum Ministry Saeed Qavampour has said that the ministry plans to reinforce its marketing activities by training marketing experts.
He said the ministry also intends to upgrade its international profile over the 6th economic development plan and to this end has started identifying the potentials for training professional marketers.
"Over the 6th economic development plan a professional team will pursue all trade and international issues at Petroleum Ministry. This working group will include representatives from the ministry's international department, NIOC's international department, National Iranian Gas Company (NIGC) and the other subsidiaries related to selling oil and its derivatives, and at the same time it may invite foreign ministry's representatives to its meetings." Qavampour said.
He said over the past 10 years, Petroleum Ministry has not paid enough attention to strategic planning, adding the more competitive a market the country faces in view of the sanctions, a better analysis of the market and qualified strategists will be obtained.

Oil below $100 tightens OPEC budgets, prompts signs of concern

Oil's slide below $100 a barrel on Monday adds to financial worries for OPEC members, prompting some in the producer group to voice concern about too much oil in the market even if they see the current fall as short lived.
Brent crude fell below $100 a barrel for the first time in 14 months, hit by concerns about slower economic growth and ample supply. Top OPEC exporter Saudi Arabia favours oil at $100, which many others in the 12-member group also support. For now, Organization of the Petroleum Exporting Countries delegates said on Monday they were not alarmed, expecting winter demand to support prices. But signs of concern are emerging about the level of supplies.
"As with concern about the drop in oil prices it was a result of weak demand and oversupply mainly from the U.S., recovery in Libya, Nigeria and Iran," said an OPEC delegate.
"But the geopolitics is there and cold weather is approaching, which will support prices," the delegate added.
The United States shale oil boom is inflating global supplies. Within OPEC, Libyan output has risen and Iraqi exports have mostly continued flowing despite conflicts in those countries, while output has edged up in Nigeria and Iran.
Another OPEC delegate said prices were under pressure from too much oil, something some member countries were watching. However most OPEC officials contacted by Reuters continued to see the price drop as short-lived.
"The fall in prices is a temporary thing. They are still within the acceptable range. There is no real worry," said a delegate from one of OPEC's Gulf members.
OPEC does not have an official price target and prices still need to fall further to be outside an acceptable zone cited by Saudi Oil Minister Ali al-Naimi in June, when he said oil at "$100, $110, $95 is a good price."
Estimates from the International Monetary Fund indicate that while current prices are comfortable for OPEC's core Gulf members, they are below levels members including Iran, Algeria and Iraq need in 2014 for their fiscal balance to be zero.
But estimates from Arab Petroleum Investments Corp, a Organisation of Arab Petroleum Exporting Countries body that finances oil investment, put the break-even level for number one producer Saudi Arabia much closer to current prices at $98.40, and the OPEC weighted average at $104.80.

SUPPLY UP

OPEC has a nominal target to produce 30 million barrels per day and in August, pumped more than that level, according to a Reuters survey, due in part to a rise in Libya.
The group does not meet to review its output policy until November. In any case, meetings have become less of a focus for traders as in the last two years OPEC has left the target unchanged, in effect delegating market management to informal supply tweaks by Saudi Arabia, supported by Kuwait and the United Arab Emirates.
The Gulf producers could trim supply informally to make room for a further recovery in Libya, an OPEC source said in August. No evidence of this happening has come to light and any cutback is unlikely to happen overnight as the Libyan output gain could easily go into reverse, analysts said.
"They cannot be too jerky in their reactions," said Samuel Ciszuk, analyst at the Swedish energy agency. "The responsible thing would be to sit tight for a while and hope they don't see further weakness."
Gulf Arab oil ministers gather on Thursday in Kuwait for an annual meeting and while this typically does not include discussions on output targets, they may take the opportunity to comment on price levels.
Olivier Jakob, analyst at Petromatrix, did not see current prices as putting OPEC countries' budgets under strain and did not expect to see any unilateral cuts by Saudi Arabia, given that Riyadh reduced its official selling prices (OSPs) last week.
"I am not sure it is really a line in the sand. At $90 to $100 a barrel it will be fine, but if you go down to $75 it's another issue," he said.
"What Saudi Arabia did with the OSPs is significant. I take it as a sign that they want to keep market share and are not planning to cut exports." ■

Why Energy Efficiency Is The Most Important

Fuel We Didn't Know We Had

Jeff Spross

That's the word from a new analysis the International Energy Agency published Tuesday, looking into the benefits of investments in energy efficiency upgrades. Those gains can be hard to measure, as they lie in energy not used and costs not encountered — hence the "hidden fuel" moniker. This tends to result in energy efficiency being chronically undervalued, a problem the study sought to remedy by taking a "multiple benefits" approach that accounted for the full sweep of effects across health, economics, energy, pollution, etc.

The numbers IEA found were massive. Thanks to their efficiency investments, the energy use avoided by IEA's member countries in 2010 was bigger than the demand met by any other single energy supply — including oil, coal or gas. The total amount of investment in energy efficiency across those countries as of 2011 was an estimated $300 billion, which is equal to their aggregate investments in coal, oil and natural gas.

Drilling down a bit deeper, IEA determined that energy efficiency can provide health benefits that are four times the value of the upgrade cost, by freeing up more energy to use for heating, cooling and air-conditioning — and thus improving health for people with a wide range of allergies, cardiovascular problems, and other ailments. It can improve industrial productivity by up to 250 percent by lowering the costs of energy in the supply chain and thus making products cheaper and more competitive, or freeing up resources to be used in other product improvements.

IEA also found that when these productivity gains were factored back into industries' traditional rate of return analyses, the time it took for the upgrades to pay for themselves dropped from 4.2 to 1.9 years. Because most businesses make their financial calculations on relatively short time horizons, that finding could alter the way many firms weigh the benefits of efficiency versus the one-time cost of the improvements.

Energy efficiency can also improve national budgets by lowering the cost of energy used in the government's infrastructure, and it can increase energy access for low-income populations by making energy cheaper to deliver per unit. And as the Guardian pointed out, energy efficiency can even increase regional and geopolitical security — in this case, by helping Europe disentangle itself from Russian gas exports.

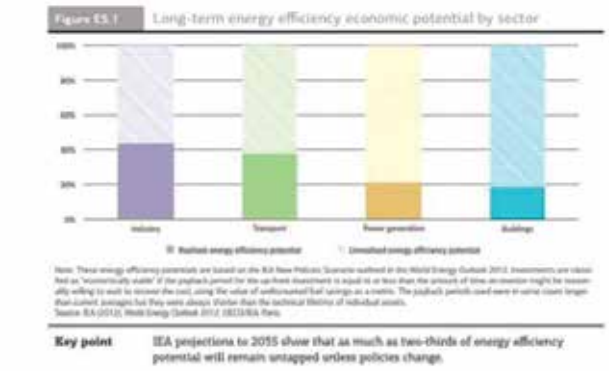
But IEA also looked at the current state of energy efficiency policies across its member countries, and found that most of the potential gains in their economies will not be realized by current policy goals:

The full version of IEA's report lays out many of the specific tools countries and businesses can use to factor in the gains of energy efficiency, and the policies that can help markets monetize the improvements — though unfortunately it's behind a paywall.

On the climate change front, a McKinsey report from 2009 even laid out how the entirety of the White House's commitment to cut national greenhouse gas emissions by 17 percent from 2005 levels by 2020 could be met through energy efficiency improvements while netting Americans $700 billion in savings.

Now, that last point is more a demonstration of the immense gains to be made in energy efficiency as opposed to what would actually happen. The IEA report also raised the issue of the "rebound effect." Efficiency gains mean a given unit of energy costs less, and then people respond by buying more energy. So the gains in terms of reduced emissions or lower total spending are partially rolled back by increased demand.

But this is far from a bad thing: as IEA noted, the health benefits, poverty alleviation, productivity improvements, and economic growth that can come from efficiency improvements are all examples of the rebound effect. Instead of using less energy, people can do far more to improve their well-being with the same amount of energy. That in itself is a crucial development, because historically the United States' energy consumption has kept pace with economic growth. But those two trend lines diverged in the mid-1970s, with the economic growth continuing on up and energy use practically plateauing. There's also evidence the same thing is happening at the global level. Plateauing energy use means plateauing emissions. So while energy efficiency certainly can't solve climate change itself, it can certainly buy us plenty of time — all while we keep making people's lives better around the globe, and transition the energy we are still using onto a more sustainable and renewable footing.



Iran's World Trade Presence Beneficial to EU

Iranian Researcher of Western European and North American Studies

In an exclusive interview with William Engdahl, a German-American freelance journalist, historian and economic researcher, about a number of issues including Iran's status in the world market and the role of EU and US in many of the equations and the myth of oil peak.

Interview by
Hamed Ghashghavi

Thank you very much for accepting this exclusive interview with Shana (Petro Energy Information Network).
Let us, as the first question, ask you about some of your first academic works. In 2004, you had A Century of War: Anglo-American Oil Politics and the New World Order published. Please tell us more about the book and what you sought by its writing.

● Actually this book was inspired by the continuing wars involving Iran, Iraq (the horrendous war of the 1980's) and other oil-rich countries. It was shortly after the illegal Bush Administration invasion of Iraq and a German publisher asked me if I would do a book on how the oil world works. My writing as you may have noticed draws on an explicitly historical approach---everything has a history. So for a book about oil wars I went back to the beginning—to the British Empire at the dawn of the Petroleum Era—to the first swindle of the Shah by the British more than a century ago—The British Royal Navy was the centerpiece of the power of the Empire and they had figured if they could convert from coal to oil in the navy they would enjoy a huge military advantage over any rival. Then oil in the North Sea was unknown so they went where it was known—Persia, the Anglo-Persian Oil Company, secretly owned by Her Majesty's Government in UK, Kuwait since 1899 when the British robbed it via bribery and corrupting from Ottoman Turkey. As I became immersed in this oil history I quickly realized I was looking at a major thread that connected very different events that in traditional Western history books are NEVER connected. I realized I was not only looking at the history of a commodity, but of an emerging power.
As Henry Kissinger said in the oil crisis days of the 1970's, "If you control the oil, you control entire nations." So the Century of War book became a history of the past century in the world seen through the prism of that Anglo-American control of oil to control other nations. After 1945 when oil became the basis of European and world economic prosperity, controlling oil became even more military-strategic. The history of why the CIA toppled Mossadegh in the early 1950's is one of the most clear examples. The power behind Anglo-American Big Oil was integrated seamlessly with the power of the CIA, US State Department and Pentagon sometime in the 1950s under the Dulles Brothers—Allen at CIA, John Foster at State. Since then that has been the case. These are not simple private corporations—ExxonMobil, BP or Chevron, Shell. The model for their power is the British East India Company of the early 19th century. I wrote it as I did because I felt ordinary citizens, whatever country, deserved to understand this real dynamic of their history, not only the western fairy tale version.

Please elaborate on your peak oil stance. Do you still call yourself an ex peak oil believer, given the rise of unconventional resources in the market. How can the traditional oil market be affected?

● Around 2002-3 as I saw the drumroll out of the Bush Administration in Washington for war—not against Osama any more. They forgot him in Tora Bora it seemed. But suddenly Washington called for war against Saddam Hussein in Iraq who controlled the world's second largest oil reserves after Saudi. I was perplexed as many why Bush would risk a rupture with America's closest allies—Germany, France were vehemently against war on Iraq. Then I came across the "peak oil" argument and for want of any other real explanation, for a brief time I was convinced by it. Then, as I tend to do in my researches and work, I dug deeper. I was having growing doubts about the Peak Oil arguments scientifically. I went to a conference of the peak oil association in Berlin. I heard all the top gurus of peak oil speak. The names are unimportant. What they argued scientifically was so shallow and in some cases non-existent. I some weeks later went to Sweden to privately hear a power point presentation argument from a Swedish professor heading the peak oil organization internationally. He was president but had no scientific background in oil, rather in nuclear engineering. Everything he said rested on one crucial point: Oil is a fossil fuel. There began my doubts. So I dug deeper. I read work of scientists in Ukraine and Russia during the Cold War that had been translated into English. They were looking at a revolutionary new way to explain both genesis and origins of hydrocarbons—oil, gas, coal. Then I realized that one of the prime propagandists for Peak Oil, the late Matt Simmons whom I had met, was a Texas oil banker, not a scientist. He gave great articulate media interviews that made dramatic headlines, he and was a good friend of Dick Cheney. That made me more and more suspicious. Then I found that the main scientists of so-called peak oil all had ties to big oil—Texaco, Total and so. Peak oil is nothing but an elaborate lie to keep other nations from finding their own oil—for maintaining the Anglo-American oil monopoly of power. The rise of "unconventional" sources of hydrocarbons is nothing new, only the fracking techniques developed by Cheney's Halliburton and others. If anything, shale fracking weakens the peak oil argument. As a distinguished Dutch oil economist Peter O'Dell, another peak oil critic like myself

said some years ago, "The world is not running out of oil, we're running into oil." The political problem for the Anglo-American global power is how to hide that fact- hence the reason for the Iran-Iraq tragic war in my view, and countless other energy wars.

What are the environmental dangers of shale oil and gas production, regarding the hydraulic fracturing techniques used for recovering petroleum products?

● The shale "fracking" or hydraulic fracturing has enormous problems. First there is the huge volume of water required to be pumped into the shale rocks. Fracking requires drilling down vertically through hundreds of feet of rock and then horizontally through shale beds. Millions of gallons of rock, sand and chemicals are then pumped down under high pressure to fracture the shale, releasing the natural gas trapped in the interstices of the shale. But in drilling down to the deposits, wells often pass through aquifers that provide water to communities, plants and wildlife on the surface. Here it often happens that ground water is contaminated with the highly toxic fracking chemicals. The companies refuse in the USA to take responsibility as Dick Cheney when Vice President manages to get an exemption making oil companies the only industry exempt from the strict US Clean Water Act. In addition, repeated earthquakes, including the area around Dallas Texas where I grew up, have accompanied the fracking as the structure of the subsurface is often dramatically weakened. In addition disposal of fracking water, millions of gallons is often done at or near the site further contaminating nature, animals, people. Further shale fracking wells deplete far more rapidly than conventional wells, making it necessary for a company to drill ever more wells just to maintain steady volumes. That is a huge environmental and financial cost that US companies are trying to hide from the outside while they try to dump their shale leases on unknowing foreign investors like the Chinese or Europeans who are naïve about all this. All the global estimates of where shale oil or gas exists comes from a Washington consulting firm on contract to the US Government. That alone should cause suspicion. In China, which the US report says holds the world's largest shale reserves, it happens to be concentrated in Sechuan Province—a major earthquake region with major water problems. Shale fracking now is just what Sechuan does NOT need! Only one example.

In 2012 you authored one of your most controversial books entitled: Myths, Lies and Oil Wars. Please explain a little bit about the title of this interesting work.

● The myth I refer to is the carefully-cultivated myth that oil or gas are scarce—that their origins hundreds of millions of years ago are from biological dead matter such as dinosaur detritus or algae or leaves, the so-called "fossil fuel" theory. But there has never been a repeatable, verified scientific experiment or formula that explains how dead dinosaurs transform into hydrocarbons. This is the central myth that allows the Anglo-American oil cartel controlled by two powerful families—Rockefeller in the case of Chevron and ExxonMobil, and Rothschild in the case of Shell, to control world energy---that is a huge geopolitical advantage. Wars as I say are regularly fought to keep that myth and control. The lies derive from their efforts to maintain the myth of oil scarcity—that the volume of dinosaur detritus is finite. And of course I try to illuminate the wars this cartel that is so powerful it virtually controls the governments of the USA and UK, has initiated to keep their control.

Who suffered mostly from isolating Iran from economic arenas of the world?

● The entire world. Allowing Iran to participate normally in world trade would benefit the EU countries who badly need export markets to get out of their economic crisis of the past five years; It would help China and Eurasian countries who could benefit from rising trade with Iran, not only in oil. And it hurts the economy of the US itself, though the powerful rich families that control Wall Street banks and Big Oil and the military industry do not seem to care about the fate of American ordinary people.

How can the current conditions of Iraq and the rise of terrorist groups in the Middle East as producers in the region affect world markets and the future of petroleum policies?

●The bizarre fact is that despite the (very suspicious) explosion of activity from this strangely named ISIS (now IS) in Iraq and Syria, despite the fact that the US-backed toppling of Libya's Qaddafi have endangered millions of barrels of world oil flows, the New York NYMEX oil futures market has reacted with almost a yawn. I maintain that is because oil today is not a physical market anymore between petroleum

buyers and sellers with a little price risk hedging. Through the development of oil futures traded on Wall Street's NYMEX (owned by Chicago's mammoth CME Group), or ICE Futures in London or the Dubai Mercantile Exchange owned by Goldman Sachs, JPMorgan Chase, Morgan Stanley, and Shell, the financial derivatives markets that are controlled by four or five giant players—Goldman Sachs, Citibroup, JPMorganChase, Barclays—control the paper price of oil.

According to Resource Geology Engdahl stated in 2007 that he had come to believe that petroleum is not biological in origin, which is the theory supported by the majority of petroleum geologists and engineers.[2] Instead he now believes the hypothesis that petroleum is geological in origin, produced from carbon, by forces of heat and pressure deep underground. Engdahl calls himself an "ex peak oil believer", stating that peak oil is actually a political phenomenon. If that is true, what made you believe so?

● I partly answered this above. I began reading the scientific papers of leading Russian and Ukrainian geophysicists who had uniquely developed this "abiotic" or non-biological origin hypothesis which, by the way, has since been amply proved scientifically by not only the Russians but also by the Carnegie Institute in Washington. Their scientific explanation of the deep inner Earth genesis of the hydrocarbons that are then forced upwards from the mantle via huge pressures in the Earth core to the surface also explains the otherwise mysterious but verified phenomena of "self-refilling wells". Every giant oil field is self-refilling from under. You need to determine the rate of refill volume and rate of extraction. If they are in balance, you can keep pumping and pumping and pumping... The trick that the Russians have mastered over more than six decades of initially highly-classified research, is how to read or understand the geologic Earth structures, tectonic indications and such to know where to look for oil or gas. I am in long-standing contact with several of the Russian scientists who have done this. For obvious reasons, the Western petroleum industry—ExxonMobil, BP and co., as well as Halliburton or Schlumberger try to discredit the Russian theories by citing work of a sad incompetent now deceased, Thomas Gold as proof abiotics is wrong.

The deep wells offshore Vietnam were developed by the Russians, as were those in the Donetsk Basin in east Ukraine before the tragic events of today. Those wells produce in a region Western conventional geology claimed was impossible as they were not "sedimentary basins" and held no "source rock." Science, true science, is always about overturning earlier models for more precise ones and it is no different in geoscience. However, the status quo lobby of Anglo-American Big Oil is so powerful they have largely discredited or ignored the amazing work of the Russians. I am convinced Iran could discover huge new oil and gas resources and, using a variation of the same science of geo-mapping and I would be happy to introduce the relevant scientists. I was in Teheran a year ago and am struck by the warmth and energy of the people there I met. You deserve better than the West has done to your country as to many countries.
These methods are adaptable as well to find abundant subsurface pure water to "green the deserts". I know the scientists personally who are doing this around the world, very quietly so as not to make too big waves and irritate the vested interests of Anglo-American Big Oil. Abundant and inexpensive hydrocarbon energy for the world economy could open the way for an era of prosperity mankind has never before seen.

Please let us know your idea about global warming.

● Like "Peak Oil" it is scientifically fraudulent. We must ask why the Global Warming lobby refuses any and all serious scientific open debate? They terrorize opponents, slander them, but never argue science with them. Once measured data suggested some years ago that "warming" was becoming "cooling" political people like Al Gore and the head of the IPCC, Rajendra Kumar Pachauri, came up with the deliberately confusing new term, "Climate Change." Better say "weather change" and weather since time immemorial is always changing.
There is so much scientific corruption, scientists willing to prostitute their integrity for government research grant money or private company money. There is huge documented fraud in the Global Warming game, backed by the interests of Wall Street banks with their "carbon trading" schemes. But the main aim of the original Global Warming idea dreamed up by Margaret Mead and others in the US and UK was to find an argument to stop the economic growth of emerging countries like India, China, Africa. The University of East Anglia leaked emails of the world's leading Global Warming scientists showing faked data, the deliberate lies put into the IPCC assessment "proving" the Himalaya ice ism melting, such fairy tales are debunked, but Western media is so controlled---CNN, New York Times, BBC, Guardian. And they parrot the religion of Global Warming and the hidden message is "people pollute," in other words, a sophisticated argument for global population reduction—eugenics. Fortunately, man has little if any long-term influence on climate. Earth is a very robust system and the main influence on Earth climate or weather is the Sun, something NO Global Warming or IPCC computer climate model is capable of or even tries to model. Global Warming like Peak Oil is a political not scientific phenomenon. Fortunately in the last several years the global cooling has cooled the frenzy over Al Gore and the IPCC "doomsday" warnings of an Earth climate "tipping point."

Regarding the sizable feedstock available for petrochemical plants in Iran, how do you view the future of Iran's role in Asian and global petrochemical markets?

● I believe the future in terms of supply from Iran is extremely positive to supply Asian and global petrochemical markets. It is a political problem of the US sanctions and here Iran is dealing not with an honest counterparty in Washington. The lobby or special interests behind Big Oil want to control Iran's petrochemicals and the flows to which markets. That is a major reason in my view for the US decision to back Saudi and Qatar financing of the terror inside

Syria to topple Bashar al Assad. Assad bluntly refused an attempt by Qatar to join in a gas pipeline deal via Syria through to Turkey, citing his ties with Gazprom. Then, very notably, within weeks of the announcement by the three governments of Iran, Iraq and Syria of plans to build the Friendship Pipeline for Iran's South Pars gas, the largest known gas field in the world, in February 2012 the USA, Britain and other NATO countries withdrew their ambassadors from Damascus and began covert backing of a total color revolution against Assad's regime. Assad's main crime was that he refused to play by the rules of the Anglo-American New World Order.

In your eyes, what will be the final result of the Iran & P5+1 talks? What is its influence on Oil Market? How would things change for Iran's economy in case a promising agreement is finally clinched in the Vienna talks?

● As much as I would like to believe the Obama Administration genuinely for a change wants to deal openly and honestly with Teheran in Iran & P5+1 talks, I do not see it. I believe it is a manipulation tactic at this point or any serious results will be blocked by neo-conservatives and the powerful US military industry lobby in Washington. I believe Iran is negotiating in good faith but she should not be at all naïve over the words of Secretary Kerry and others. The power structures that control Washington are not interested at all in the well-being of Iran or even of the United States people. They are interested in their own power and that power is threatened as never before by such emerging alternatives as BRICS, SCO, Eurasian Economic Union. Even the EU elites are moving to join the emerging new economic colossus of the world—Eurasia led by what I like to call a de facto Iron Triangle of three countries with converging geopolitical interests—Iran, Russia and China.

As you are one of the rare geo-politicals who began writing about oil politics with the first oil shock in the early 1970s, how do you view the current state of the global oil market? Who & how are the main players on this market?

● You give away my age (laughs). The oil market today is virtually not comparable to that of the time of the 1973 oil shock and aftermath. Then we spoke of the Rotterdam "spot market" which was a key market stabilizer when supplies of crude and markets had to be close. In the late 1980's Goldman Sachs and Wall Street introduced "paper barrel" oil futures trading. Today paper oil determines price, no longer physical supply and demand though it can slightly influence at the edges. This change has been accompanied by the Commodity Futures Modernization Act of 2000 which permits virtually unregulated and unsupervised derivatives trades of oil futures. The main players on this very manipulated and opaque market are the two key exchanges—Nymex (CME Group) and ICE in London. Wall Street banks control both in different degrees. It is a rigged casino. The main players are the giant oil companies like BP, banks like Barclays, Citigroup. Goldman Sachs and JP MorganChase. Incredibly so little has been written about this financial collusion and cartelization of the futures market of oil. It is a huge story.

What is Rockefeller Foundation's role in Oil Market?

●Today the role of the Rockefeller Foundation, which was legally created in 1913 by Standard Oil founder John D. Rockefeller to keep the family's oil wealth from government income taxation as the income tax that year had just been passed. Through the foundation over the years, the family has implemented an incredible agenda including eugenics and genetical manipulation of plants research and development, takeover of US medical education to narrow medicine to serve the interests of the (Rockefeller-owned) pharmaceutical industry and such projects. I am not aware of the direct role of the foundation today in the oil market. It is more indirect over minority shareholdings and companies like JP Morgan Chase that are historically Rockefeller

group banks or companies voting a certain way.

What could be the effect of US-Russia tensions & Ukrainian crisis on Global Gas Market?

● President Obama apparently was given very poor advice and began promising the new Ukraine regime US natural gas as an alternative to Russian gas. That was nonsense and since then he has not said much. The potential effects if Russian gas continues to not be delivered to Ukraine for lack of payment and if the very erratic Kiev regime sabotages more of Russian Ukraine gas pipelines, could be a huge price spike in gas in the EU market, especially Germany. That is why Angela Merkel whatever she may say publicly privately is trying everything to avoid imposing more severe EU sanctions on Russia as Washington demands.

What is your idea about investment in renewable energies all over the planet and the role of this energy in the energy basket for supplying energy in the future?

● It's a real pity that for the same political reasons Global Warming has been promoted by a certain interest group for their own agenda. They promote "alternatives" such as solar, windmill power, geothermal. These are not at all realistic as a substitute for hydrocarbons at present. But hydrocarbons exist in abundance and beyond. Yes solar panels in a country like Iran or Morocco can heat water or more because you have the sun. Globally it is inefficient and far too costly and there is not enough sunshine in northern Europe or most of the North America.
Thank you once again ■

ENERGY WORLD

In the shadow of Iran a new UAE oil port is transforming energy sector

After years of threats, new oil pipeline to Fujairah will allow UAE, crude to bypass the strategic Strait of Hormuz.

In response to Iran's strategic grip over oil passing through the Strait of Hormuz, a new export route for crude from the Persian Gulf is growing on the coast of the Arabian Sea, with the potential to transform global energy markets.

Giant tankers now queue in lines stretching for miles to load oil or refuel at Fujairah – a sleepy sheikhdom in the United Arab Emirates (UAE) – after the government invested billions of dollars into building a giant oil pipeline across the rugged Hajar mountains, with the aim of ending the potential stranglehold that Iran could place on the nation's exports of crude.

The 21-mile-wide Hormuz channel handles a third of the world's oil-tanker traffic and connects the Persian Gulf's sheikhdoms to the Arabian Sea. Fears that Tehran could choke off exports shipped through it have been a concern weighing on oil markets for decades.

In 2008, worries that Iran would blockade the strait helped to send oil prices skyrocketing to a record $147 per barrel, a level not achieved since. But the opening of a 240-mile long, 48in-wide export pipeline two years ago, linking the UAE's biggest oil fields with the Arabian Sea has alleviated these concerns and could now transform Fujairah from a quiet port used by ships to refuel into a global energy trans-shipment hub.

"Fujairah is the only emirate that has significant access to the ocean, and it has been on our eye to utilise this strategic position and location as an export route," Suhail Al-Mazrouei, minister of energy for the UAE told The Daily Telegraph, on the sidelines of an energy forum hosted by The Gulf Intelligence.

"The infrastructure that Fujairah now has today and will have in the future makes it a major city and a major destination for the energy sector."

The pipeline from Habshan in the emirate of Abu Dhabi currently carries about 800,000 barrels per day (bpd) of crude – equal to Britain's entire output from the North Sea – but has the capacity to handle up to 1.5m bpd.

The advantage for oil tankers loading crude in Fujairah is that vital delivery time is saved that otherwise would be wasted sailing back and forth through the overcrowded Strait of Hormuz. Loading at Fujairah is also cheaper for tankers, which don't have to pay the costly indemnity rates required to enter the Persian Gulf.

The logic of shifting more export capacity outside the Gulf is also catching on with other exporters in the region. Oman is planning to build a new multi-billion-dollar oil export hub at Ras Markaz, about 450 miles south of the UAE. Although the sultanate already loads and stores its own crude from outside the Gulf, the Ras Markaz will provide it with enough capacity potentially to export oil from other countries in the region.

In addition, the government of the UAE plans to invest billions of dollars to build the largest facilities to import liquefied natural gas (LNG) in the entire Middle East at Fujairah to help meet surging domestic demand for electricity and desalinated water.

According to Mr Al-Mazrouie, Fujairah is the most strategically secure location in the emirates to build the new facilities.

"We are going to import LNG and the UK is already importing LNG so that makes the people of the UAE and the UK concerned about the security of the same commodity.

"It is the same when you are talking about the utilisation of energy as a whole. I think energy, whether in the UK or Germany or here, is everyone's concern.

"We're concerned on the level of consumption – we want to reduce consumption, to learn from Europe on the conservation of energy, and we are adopting new laws on the conservation of energy because of this. So when it comes to the subject of energy, I think we are all connected, like it or not," he said.

Aside from the new LNG import facilities, major projects are planned to expand its crude oil storage capacity to 12m barrels and to provide loading infrastructure for huge 330-metre-long (360-yard) class of tankers known as Very Large Crude Carriers.

"The Habshan oil pipeline has given companies the confidence to invest in Fujairah for the first time," said Capt Mousa Morad, general manager of the port of Fujairah. "We are emulating Dubai but for the sea."

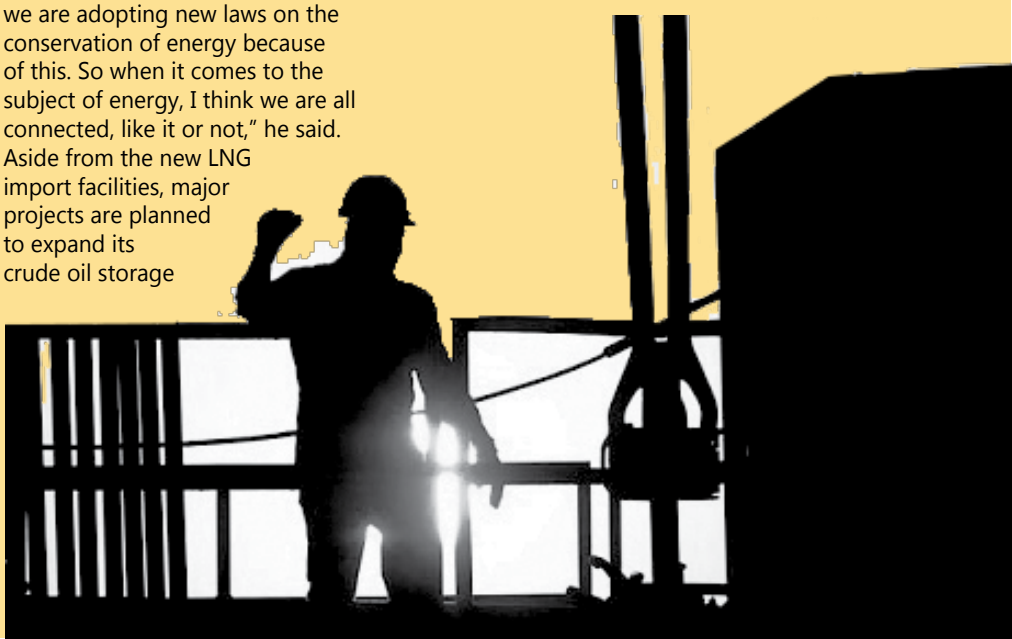
Although Fujairah's recent growth has come mainly from the new pipeline, the port has played an important role as a safe bunkering terminal ever since shipping in the Gulf was threatened during the Iran-Iraq war in the early Eighties.

The presence last week of a Chinese naval flotilla reportedly visiting the Iranian port of Bandar Abbas in the Gulf for the first time is further evidence of potential future flash points.

However, the strategic location of Fujairah at the gateway to the world's biggest oilfields was even apparent as early as the Second World War.

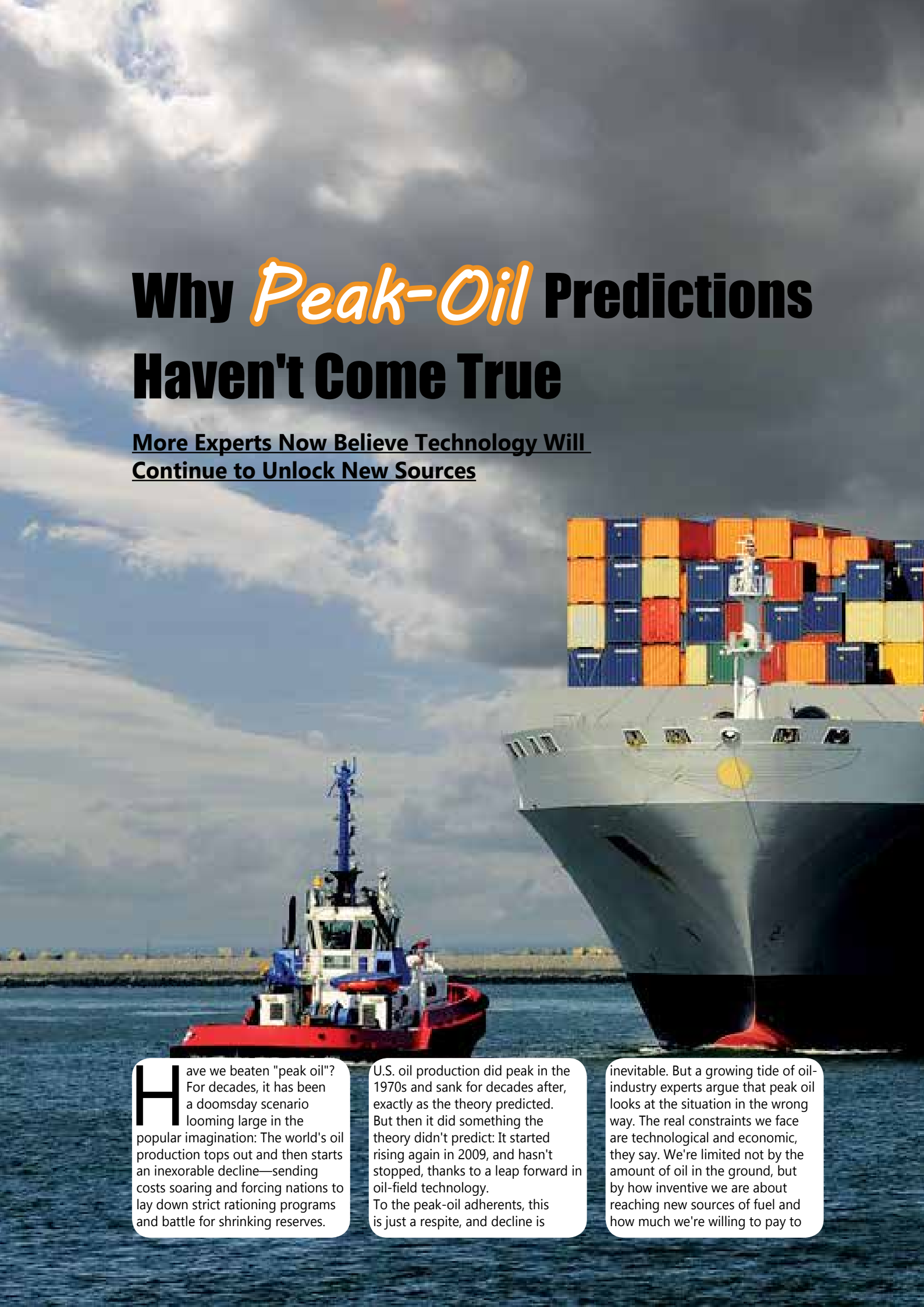
A few miles off the coast lies the wreck of a German U-boat sunk by a British bomber in 1943 on its way to the Gulf. The submarine – the only such vessel thought to have reached the Arabian Peninsula in the war – had been sent by Adolf Hitler to sink British tankers bringing vital fuel out of the region.

Today, the submarine, which rests at the bottom of the Arabian Sea, is near a popular local fishing spot, but it is also a poignant reminder of Fujairah's strategic location at the gateway to a region that lays claim to 60pc of the world's proven oil reserves. ■



Why Peak-Oil Predictions Haven't Come True

More Experts Now Believe Technology Will Continue to Unlock New Sources



Have we beaten "peak oil"? For decades, it has been a doomsday scenario looming large in the popular imagination: The world's oil production tops out and then starts an inexorable decline—sending costs soaring and forcing nations to lay down strict rationing programs and battle for shrinking reserves.

U.S. oil production did peak in the 1970s and sank for decades after, exactly as the theory predicted. But then it did something the theory didn't predict: It started rising again in 2009, and hasn't stopped, thanks to a leap forward in oil-field technology.

To the peak-oil adherents, this is just a respite, and decline is inevitable. But a growing tide of oil-industry experts argue that peak oil looks at the situation in the wrong way. The real constraints we face are technological and economic, they say. We're limited not by the amount of oil in the ground, but by how inventive we are about reaching new sources of fuel and how much we're willing to pay to

get at it.
"Technology moves so quickly today that any looming resource constraint will be nothing more than a blip," says petroleum economist Phil Verleger. "We adjust."
Whether peak oil exists is more than just a point of intellectual debate—although it certainly has proved to be a heated and divisive one for decades. The question—and how we think about it—also has a big potential impact for governments, oil producers and ordinary people across the globe, all of whom depend on the vagaries of oil production and would be threatened by soaring costs and shortages.
The peak-oil boosters argue that instead of plowing money into new ways to find oil, we should be conserving what we have and investing in alternative energy sources so that we're prepared when supplies run low and costs soar. Most of the naysayers agree that we shouldn't stick with oil forever. But they think it's wiser to invest in technology to keep expanding the available supply, until it gets too expensive to do so. At that point, they're confident, we'll be able to come up with an economical alternative.
The History of an Idea
Peak oil was most widely popularized by M. King Hubbert, a brilliant—and egotistic, by some accounts—geologist who worked for years at Shell Oil. In a 1956 paper, he predicted that U.S. oil production would peak, probably in the early 1970s, and then decline. It would resemble a bell curve.

Can India be the regional bunkering hub?

"Country Head of International Bunkering Middle East DMCC, India
Capt Virendra Mishra is Country Head of International Bunkering Middle East DMCC in India. International Bunkering is a member of a large European based Shipping and Bunker trading group, which is more than a century old. International Bunkering supplies bunkers and lubricants in approximately 3000 ports worldwide.
Capt Mishra started his career as Trainee Nautical Officer with The Shipping Corporation of India in 1989. He rose to the position of Master in 2002 and joined Essar Shipping in 2007 as Superintendant Operations where he served till 2010) "

The last two decades have seen the Indian economy growing at an exponential rate. Even during the worst years of recession in living memory, India's GDP has been at a moderate figure of 5.6%-9.0%. After economic reforms in 1991 India has never looked back and has opened the gates for the outside world to explore business opportunities.

Cargo volumes at Indian sea ports have been steadily increasing. India's extensive 7,500 km coastline is dotted with 13 major ports and some 183 minor and 4 intermediate ports. The Government of India's Port Trust of India runs all the major ports. India has seen rapid growth in port and infrastructure sector which is in line with India's vision for the future. More than 24 thousand vessels called Indian ports during 2009-2010. The numbers are expected to constantly increase as India's appetite for Coal and crude oil imports are only going to increase. Cargo handling is projected to grow at 7.7% until 2013-14.
As per estimates, about 1.8 million tons of bunker is sold in India annually which is far below Singapore and Fujairah. Singapore has sold more than 43 million tons last year and Fujairah too stands at an impressive figure of 18 million tons. Though in India also there has been a big change in scenario but as the above figures would suggest, India has a lot to catch up. Industry experts believe that India has the potential to sell 8-10 million tons of bunkers considering the number of ports on Indian coast and number of ships calling on Indian ports. Advantage is also compounded by the fact that the vessels calling Indian ports for cargo operations don't have to wait to receive bunkers (except at a few ports and for certain types of vessels).
In the last few years India has seen increase in bunker sales activities, for which there are numerous reasons. The traffic at Indian ports has constantly increased in the recent years. Major participation by private players has brought in stiff competition and improvement in services rendered to customers. Till 2007 only IFO 180 cSt was available at Indian ports whereas today at several major ports IFO 380 cSt can also be supplied. As far as bunker quality is concerned Specs as per ISO 8217:2010 is available at several Indian ports.
In spite of all this, India has not been able to achieve its maximum potential.
There are numerous factors contributing to India's slow growth in bunker trade.
Most of the ship operators and owners complain of high bunker prices at Indian ports. The obvious comparison is with Singapore, Fujairah and Colombo. In the recent past Cochin has been a better alternative for Colombo as it has offered lower prices than Colombo. Bunker rates at Mundra, Kandla, Mumbai and Cochin have been able to match international prices. However, tax exemption on bonded bunkers can make Indian ports very attractive destination for bunker purchase. The tax structure varies in different states on different products. As far as VAT on bonded bunkers is concerned, if it is treated as goods being exported from India, this will not attract tax, and VAT will not be applicable on bonded bunkers, making the prices of Indian bunkers competitive with Fujairah and Colombo. This has to apply uniformly in all states. Several states like Maharashtra, Goa, Kerala etc. have already granted tax exemption.
Major changes are required in the Infrastructure and Logistics sector. In many ports, bunkers are supplied by trucks which in turn, are restricted in their capacity as well as movement. Pipeline and barge supply are the need of the hour. Infrastructure is catching up in many ports like Mundra , Kandla, JNPT and Cochin but there is still a long way to go. It is very obvious that when bunker sales volumes grow, logistics will also improve. Custom regulations are a major hurdle as well, its time consuming, and due to different holidays in different states it can take a lot of time to process documents for bunker supply. A simplified uniform procedure all over the country in all Major and Minor ports can be a solution to this problem.
There is an obvious need for the formation of an Association for all involved in the bunker industry in India. Such an association may include participation and membership from refineries, physical suppliers, barge owners, bunker traders and brokers as its members. This will immensely help the industry. It will be easier to identify and communicate the hurdles of the bunker industry to those in the corridors of power. This will help to advise the solutions to various ministries concerned.
The improvement in infrastructure, tax regulations and simplification in custom regulations will immensely help the industry to grow. Such a growth will not only help the bunker industry in India to flourish and compete in this region, but also the buyers (who are mostly from the shipping industry). It also goes without saying that a growing bunker industry will generate many jobs as a result of the multiplier effect. India has the potential to be a regional bunkering hub.

"Gail Tverberg is a writer and speaker about energy issues. She is especially known for her work with financial issues associated with peak oil. Prior to getting involved with energy issues, Ms. Tverberg worked as an actuarial consultant. This work involved performing insurance-related analyses and forecasts. Her personal blog is ourfiniteworld.com. She is also an editor of The Oil Drum."

Where are We Headed?

Gail Tverberg

The standard way to make forecasts of almost anything is to look at recent trends and assume that this trend will continue, at least for the next several years. With world oil production, the trend in oil production looks fairly benign, with the trend slightly upward (Figure 1).

If we look at the situation more closely, however, we see that we are dealing with an unstable situation. The top ten crude oil producing countries have a variety of problems (Figure 2). Middle Eastern producers are particularly at risk of instability, thanks to the advances of ISIS and the large number of refugees moving from one country to another.

Relatively low oil prices are part of the problem as well. The cost of producing oil is rising much more rapidly than its selling price, as discussed in my post Beginning of the End? Oil Companies Cut Back on Spending. In fact, the selling price of oil hasn't really risen since 2011 (Figure 3), because citizens can't afford higher oil prices with their stagnating wages.

The fact that the selling price of oil remains flat tends to lead to political instability in oil exporters because they cannot collect the taxes required to provide programs needed to pacify their people (food and fuel subsidies, water provided by desalination, jobs programs, etc.) without very high oil prices.

Low oil prices also make the plight of oil exporters with declining oil production worse, including Russia, Mexico, and Venezuela.

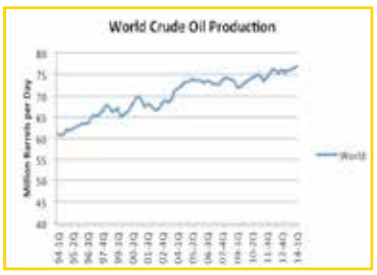
Many people when looking at future oil supply concern themselves with the amount of reserves (or resources) remaining, or perhaps Energy Return on Energy Invested (EROEI). None of these is really the right limit, however. The limiting factor is how long our current networked economic system can hold together. There are lots of oil reserves left, and the EROEI of Middle Eastern oil is generally quite high (that is, favorable). But instability could still bring the system down. So could popping of the US oil supply bubble through higher interest rates or more stringent lending rules.

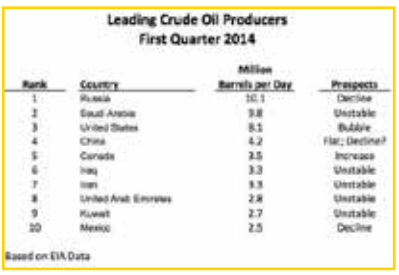
he Top Two Crude Oil Producers: Russia and Saudi Arabia

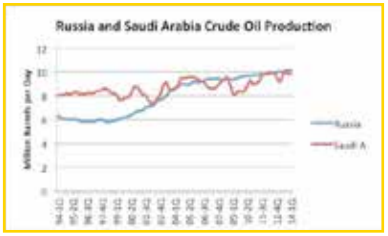
When we look at quarterly crude oil production (including condensate, using EIA data), we see that Russia's crude oil production tends to be a lot smoother than Saudi Arabia's (Figure 4). We also see that since the third quarter of 2006, Russia's crude oil production tends to be higher than Saudi Arabia's.

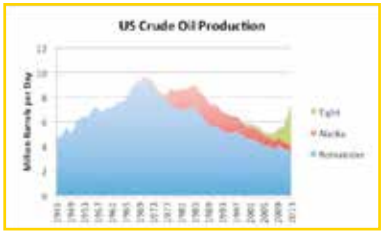
Both Russia and Saudi Arabia are headed toward problems now. Russia's Finance Minister has recently announced that its oil production has hit and peak, and is expected to fall, causing financial difficulties. In fact, if we look at monthly EIA data, we see that November 2013 is the highest month of production, and that every month of production since that date has dropped from this level. So far, the drop in oil production has been relatively small, but when an oil exporter is depending on tax revenue from oil to fund government programs, even a small drop in production (without a higher oil price) is a financial problem.

We see in Figure 4 above that Saudi Arabia's quarterly oil production is quite erratic, compared to oil production of Russia. Part of the reason Saudi Arabia's oil production is so erratic is that it extends the life of its fields by periodically relaxing (reducing) production from them. It also reacts to oil price changes–if the oil price is too low, as in the latter





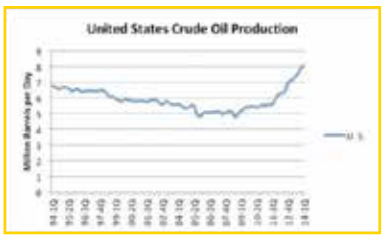




part of 2008 and in 2009, Saudi oil production drops. The tendency to jerk oil production around gives the illusion that Saudi Arabia has spare production capacity.
It is doubtful at this point that it has much true spare capacity. It makes a good story, though, which news media are willing to repeat endlessly.
Saudi Arabia has not been able to raise oil exports for years (Figure 5). It gained a reputation for its oil exports back in the late 1970s and early 1980s, and has been able to rest on its laurels. Its high "proven reserves" (which have never been audited, and are doubted by many) add to the illusion that it can produce any amount it wants.
In 2013, oil exports from Russia were equal to 88% of Saudi Arabian oil exports. The world is very close to being as dependent on Russian oil exports as it is on Saudi Arabian oil exports. Most people don't realize this relationship.
The current instability of the Middle East has not hit Saudi Arabia yet, but there is increased fighting all around. Saudi Arabia is not immune to the problems of the other countries. According to BBC, there is already a hidden uprising taking place in eastern Saudi Arabia.

US Oil Production is a Bubble of Very Light Oil

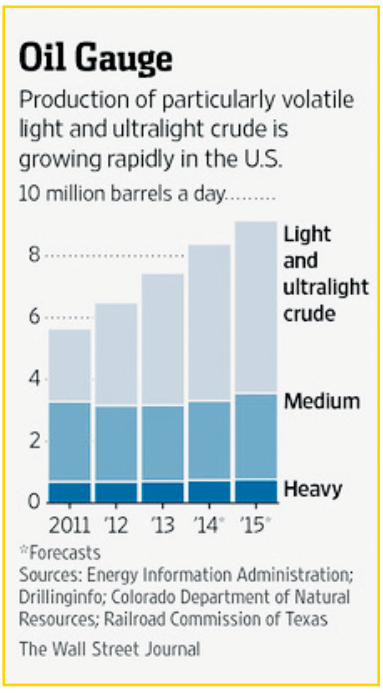
The US is the world's third largest producer of crude and condensate.



Recent US crude oil production shows a "spike" in tight oil productions–that is, production using hydraulic fracturing, generally in shale formations (Figure 6).
If we look at recent data on a quarterly basis, the trend in production also looks very favorable.
The new crude is much lighter than traditional crude. According to the Wall Street Journal, the expected split of US crude is as follows:
here are many issues with the new "oil" production:

- The new oil production is so "light" that a portion of it is not what we use to power our cars and trucks. The very light "condensate" portion (similar to natural gas liquids) is especially a problem.

- Oil refineries are not necessarily set up to handle crude with so much volatile materials mixed in.

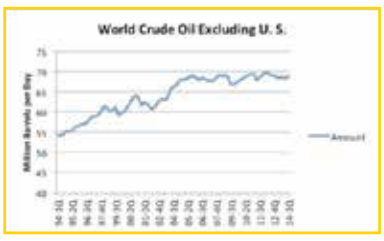


Such crude tends to explode, if not handled properly.

- These very light fuels are not very flexible, the way heavier fuels are. With the use of "cracking" facilities, it is possible to make heavy oil into medium oil (for gasoline and diesel). But using very light oil products to make heavier ones is a very expensive operation, requiring "gas-to-liquid" plants.

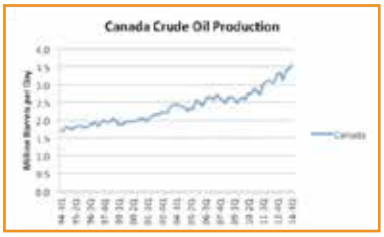
- Because of the rising production of very light products, the price of condensate has fallen in the last three years. If more tight oil production takes place, available prices for condensate are likely to drop even further. Because of this, it may make sense to export the "condensate" portion of tight oil to other parts of the world where prices are likely to be higher. Otherwise, it will be hard to keep the combined sales price of tight oil (crude oil + condensate) high enough to encourage more tight oil production.

The other issue with "tight oil" production (that is, production from shale formations) is that its production seems to be a "bubble." The big increase in oil production (Figure 6) came since 2009 when oil prices were high and interest rates were very low. Cash flow from these operations tends to be negative. If interest rates should rise, or if oil prices should fall, the system is likely to hit a limit.
Another potential problem is oil



companies hitting borrowing limits, so that they cannot add more wells.
Without US oil production, world crude oil production would have been on a plateau since 2005.

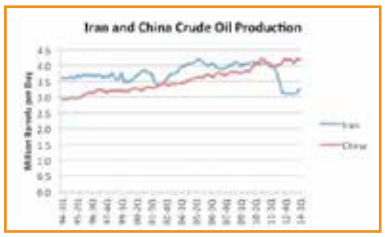
Canadian Oil Production
The other recent success story with respect to oil production is Canada, the world's fifth largest producer of crude and condensate. Thanks to the oil sands, Canadian oil production has more than doubled since the beginning of 1994 (Figure 10).



Of course, there are environmental issues with respect to both oil from the oil sands and US tight oil. When we get to the "bottom of the barrel," we end up with the less environmentally desirable types of oil. This is part of our current problem, and one reason why we are reaching limits.

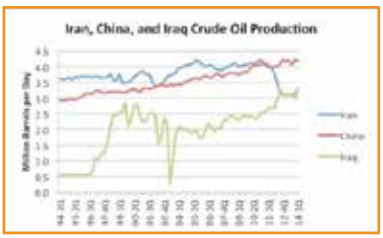
Oil Production in China, Iraq, and Iran
In the first quarter of 2014, China was the fourth largest producer of crude oil. Iraq was sixth, and Iran was seventh (based on Figure 2 above). Let's first look at the oil production of China and Iran.
China has relatively more stable oil production than Iran. One concern now is that China's oil production is no longer rising very much. Oil production for the fourth quarter of 2013 is approximately tied with oil production for the fourth quarter of 2012. The most recent quarter of oil production is down a bit. It is not clear whether China will be able to maintain its current level of production, which is the reason I mention the possibility of a decline in oil production in Figure 2.
The lack of growth in China's oil supplies may be behind its recent belligerence in dealing with Vietnam andJapan. It is not only exporters that become disturbed when oil supplies are not to their liking. Oil importers also become disturbed, because oil supplies are vital to the economy of all nations.
Now let's add Iraq to the oil production chart for Iran and China.
Thanks to improvements in oil production in Iraq, and sanctions against Iran, oil production for Iraq slightly exceeds that of Iran in the first quarter of 2014. However, given Iraq's past instability in oil production, and its current problems with ISIS and with Kurdistan, it is hard to expect that Iraq will be a reliable oil producer in the future. In theory Iraq's oil production can rise a few million barrels a day over the next 10 or 20 years, but we can hardly count on it.

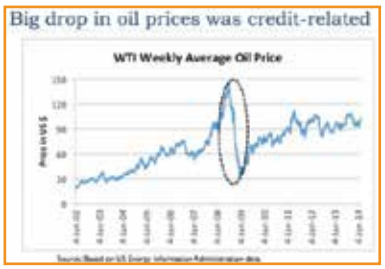
The Oil Price Problem that Adds to Instability
Figure 13 shows my view of the mismatch between (1) the price oil producers need to extract their oil and (2) the price consumers can afford. The cost of extraction (broadly defined including taxes required by governments) keeps rising while "ability to pay" has remained flat since 2007. The inability of consumers to pay high prices for oil (because wages are not rising very much) explains why



oil prices have remained relatively flat in Figure 3 (near the top of this post), even while there is fighting in the Middle East.
When the selling price is lower than the full cost of production (including the cost of investing in new wells and paying dividends to shareholders), the tendency is to reduce production, one way or another. This reduction can be voluntarily, in the form of a publicly traded company buying back stock or selling off acreage.
Alternatively, the cutback can be involuntary, indirectly caused by political instability. This happens because oil production is typically heavily taxed in oil exporting nations. If the oil price remains too low, taxes collected tend to be too low, making it impossible to fund programs such as food and fuel subsidies, desalination plants, and jobs programs. Without adequate programs, there tend to be uprisings and civil disorder.
If a person looks closely at Figure 13, it is clear that in 2014, we are out in "Wile E. Coyote Territory." The broadly defined cost of oil extraction (including required taxes by exporters) now exceeds the ability of consumers to pay for oil. As a result, oil prices barely spike at all, even when there are major Middle Eastern disruptions (Figure 3, above).

The reason why Wile E. Coyote situation can take place at all is because it takes a while for the mismatch between costs and prices to work its way through the system. Independent oil companies can decide to sell off acreage and buy back shares of stock but it takes a while for these actions to actually take place. Furthermore, the mismatch between needed oil prices and charged oil prices tends to get worse over time for oil exporters. This lays the groundwork for increasing dissent within these countries.
With oil prices remaining relatively flat, importers become complacent because they don't understand what is happening. It looks like we have no problem when, in fact, there really is a fairly big problem, lurking behind the scenes.
To make matters worse, it is becoming more and more difficult to continue Quantitative Easing, a program that tends to hold down longer-term interest rates. The expectation is that the program will be discontinued by October 2014. The reason why the price of oil has stayed as high as it has in the last several years is because of the effects of quantitative easing and ultra low interest rates. If it weren't for these, oil prices would fall, because consumers would need to pay much more for goods bought on credit, leaving less for the purchase of oil products.
Because of the expectation that Quantitative Easing will end by October 2014 and the pressure to tighten credit conditions, my expectation is that the affordable price of oil will start dropping in late 2014, as shown in Figure 13.
The growing disparity between what consumers can afford and





what producers need tends to make the Wile E. Coyote overshoot condition even worse. It is likely to lead to more problems with instability in the Middle East, and a collapse of the US oil production bubble.

Conclusion

I explained earlier that we live in a networked economy, and this fact changes the way economic models work. Many people have developed models of future oil production assuming that the appropriate model is a "bell curve," based on oil depletion rates and the inability to geologically extract more oil. Unfortunately, this isn't the right model.

The situation is far more complex than simple geological decline models assume. There are multiple limits involved–prices needed by oil producers, prices affordable by oil importers, and prices for other products, such as water and food. Interest rates are also important. There are time lags involved between the time the Wile E. Coyote situation begins, and the actions to fix this mismatch takes place. It is this time lag that tends to make drop-offs very steep.

The fact that we are dealing with political instability means that multiple fuels are likely to be affected at once. Clearly natural gas exports from the Middle East will be affected at the same time as oil exports. Many other spillover effects are likely to happen as well. US businesses without oil will need to cut back on operations. This will lead to job layoffs and reduced electricity use. With lower electricity demand, prices for electricity as well as for coal and natural gas will tend to drop. Electricity companies will increasingly face bankruptcy, and fuel suppliers will reduce operations.

Thus, we cannot expect decline to follow a bell curve. The real model of future energy consumption crosses many disciplines at once, making the situation difficult to model. The Reserves / Current Production model gives a vastly too high indication of future production, for a variety of reasons–rising cost of extraction because of diminishing returns, need for high prices and taxes to support the operations of exporters, and failure to consider interest rates.

The Energy Return on Energy Invested model looks at a narrowly defined ratio–usable energy acquired at the "well-head," compared to energy expended at the "well-head" disregarding many things–including taxes, labor costs, cost of borrowing money, and required dividends to stockholders to keep the system going. All of these other items also represent an allocation of available energy. A multiplier can theoretically adjust for all of these needs, but this multiplier tends to change over time, and it tends to differ from energy source to energy source. The EROEI ratio is probably adequate for comparing two "like products"–say tight oil produced in North Dakota vs tight oil produced in Texas, or a ten year change in North Dakota energy ratios, but it doesn't work well when comparing dissimilar types of energy. In particular, the model tends to be very misleading when comparing an energy source that requires subsidies to an energy source that puts off huge tax revenue to support local governments.

When there are multiple limits that are being encountered, it is the financial system that brings all of the limits together. Furthermore, it is governments that are at risk of failing, if enough surplus energy is not produced. It is very difficult to build models that cross academic areas, so we tend to find models that reflect "silo" thinking of one particular academic specialty. These models can offer some insight, but it is easy to assume that they have more predictive value than they do.

Unfortunately, the limits we are reaching seem to be financial and political in nature. If these are the real limits, we seem to be not far away from the simultaneous drop in the production of many energy products. This type of limit gives a much steeper drop off than the frequently quoted symmetric "bell curve of oil production." The shape of the drop off corresponds to (1) the type of drop off experienced by previous civilizations when they collapsed, (2) the type of drop-off I have forecast for world energy consumption, and (3)Ugo Bardi's Seneca cliff. The 1972 book Limits to Growth by Donella Meadows et al. says (page 125), "The behavior mode of of the system shown in figure 35 is clearly that of overshoot and collapse," so it tends to come to the same conclusion as well. ■

Saudis Said to Maintain Oil Output After Biggest Cut Since '12

Saudi Arabia, the largest crude producer in OPEC, plans to keep output steady until the end of the year, a person with knowledge of the country's oil policy said. It made the biggest cut in 20 months in August.

Output through the end of the year won't differ much from August, when the country pumped 9.597 million barrels a day, according to the person, who isn't allowed to be identified. The nation reduced production by 408,500 barrels a day last month, the most since December 2012, according to its most-recent submission to the Organization of Petroleum Exporting Countries.
Demand will rise by the end of the year because of northern hemisphere winter, the person said.
Oil demand growth was the weakest since 2012 in the second quarter and industrialized nations' stockpiles in August rose by more than twice the normal amount for the time of year, according to the International Energy Agency. Brent, the world's most-active crude contract, is close to a two-year low. OPEC may cut its output target next year, the group's secretary general said Sept. 16.

"It does make sense, even though prices are falling," Gareth Lewis-Davies, a senior energy strategist at BNP Paribas SA, said by phone from London. "Globally, demand for crude is set to increase on a seasonal basis and as new refineries in the Middle East and China ramp up. If the Saudis cut, they would lose market share and that's always a concern because it's difficult to get it back."

OPEC Target

Brent for November settlement is heading for a weekly loss this week, falling 1.4 percent since Sept. 19 to $96.97 a barrel at 11:11 a.m. in London on the ICE Futures Europe exchange.

OPEC's daily output target could fall by 500,000 barrels to 29.5 million barrels in 2015, Abdalla El-Badri, the group's secretary general, said at its secretariat in Vienna on Sept. 16. OPEC's monthly report on Sept. 10 showed demand for its oil will drop to 29.2 million barrels a day in 2015 from 29.5 million this year.

Oil inventories in developed countries probably rose by 19.2 million barrels in August, the IEA said on Sept. 11. Second-quarter demand growth fell to 480,000 barrels day, compared with a year earlier, the first time in about two years that it's been below 500,000 barrels a day, the IEA said. ■

Lifting of Iran sanctions will help global gas markets,

says Gas Exporting Countries Forum

An agreement between Iran and the five permanent UN Security Council members -- the US, the UK, France, Russia, China plus Germany on the Islamic republic's controversial nuclear programme could prove to be a game changer for global gas markets, the secretary general of the Gas Exporting Countries Forum (GECF) said.
"The lifting of sanctions on Iran would be a game changer for world gas markets. Iranian gas will be needed, both economically and politically," Dr Seyed Mohammad Hossein Adeli, secretary -general of the GECF told the 4th Gulf Intelligence Energy Markets Forum in the UAE emirate of Fujairah.

Global gas demand is seen more than doubling by 2050, driven partly by economic growth but also a trend towards greater diversification of the world's energy mix, Adeli said. He added that the share of gas in the global energy mix was expected to double to about 26 per cent in the future. The 13-member GECF, whose members include Russia, Qatar, the UAE and Iran, was set up in 2001 to foster closer cooperation between gas exporting states.

Iran, holder of the world's second-largest proved natural gas reserves, has been hard hit since UN and international bilateral sanctions were imposed on the country in 2006 and 2010 on top of existing US sanctions, hampering the country's efforts to gain access to oil and gas technology and international expertise.

However, after years of isolation, Iran is now positioning itself for the potential lifting of international sanctions, a move that would revive the Islamic republic's ailing hydrocarbons sector, pave the way for its return as a major oil and gas exporter and provide much-needed stimulus to the domestic economy.

A panel debate including Azerbaijan's minister for industry and energy Natig Aliyev; Dr Faouzi Bensarsa, senior energy adviser at the European Commission's Directorate General for Development and Cooperation; Saeed Khoory, chief executive officer of ENOC; Dr Ali Akbar Safaei, managing director and board member of National Iranian Tanker Company (NITC); and GECF secretary general Adeli addressed the issue of energy security amid rising concerns that geopolitical volatility could adversely affect energy security for consuming and producing nations.

Europe is locked in a struggle with its main gas supplier Russia over Ukraine's political future and looking to the hydrocarbon-rich Middle East and Caspian regions -- and soon the US -- as potential sources for supply diversification.

Asian consumers such as China, Japan and South Korea, which continue to import the bulk of their energy from the Middle East, have also begun to diversify their supply channels, investing in pipelines and liquefied natural gas (LNG) import facilities and other related infrastructure.

At the same time, violence and political instability in oil-producing Opec nations such as Iraq, Libya and Nigeria are threatening present production and future output targets with potentially severe implications for market stability and the direction of future energy flows. The issue of energy security isn't just constrained to consumers however. Carbon restrictions and greater efficiency technologies challenge future demand forecasts.

Meanwhile, US oil imports from traditional suppliers such as Saudi Arabia have declined in the wake of the domestic shale boom, raising concerns among producers over demand security needed to ensure income for sustained investment into maintaining and upgrading production.

This in turn is prompting producing nations to review their own strategies. Russia, in a bid to diversify its demand base for future energy sales, is targeting energy-hungry China as a future market, with plans for a multi-billion-dollar gas pipeline to the Asian giant now under way. ■

The 3 Best Stocks to Invest in Natural Gas

America is sitting on 2,203 trillion cubic feet of technically recoverable natural gas. That's enough to last the country about 92 years. Thanks to shale gas America is now the top natural gas producer in the entire world. Soon, America will start supplying the world with this resource as the country is about to begin exporting its excess natural gas, and by 2040 18% of all natural gas produced in the U.S. could be headed elsewhere for consumption, as the following chart projects.

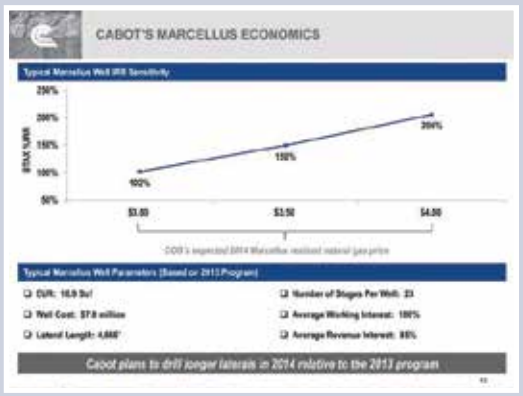
The growth in natural gas consumption both in the U.S. and abroad will fuel profits for natural gas stocks for years to come. However, the best stocks to invest in are those loaded with the lowest cost natural gas growth. Topping that list are EQT Corporation , Cabot Oil & Gas Corporation , and Range Resources Corp . Here's why.

Lowest cost yields higher profit margins

Over the past three years the trio of EQT, Cabot Oil & Gas, and Range Resources have led the pack in both lowest lifting cost and lowest finding and development cost, as noted on the following chart.

All three companies have ultra-low lifting costs of around $0.50 per Mcfe of natural gas. That's almost half the cost of the fourth lowest cost producer Southwestern Energy Company and well above other producers. Likewise, the trio's F&D cost per Mcfe is around $0.75, again nearly half the cost of the fourth place Southwestern Energy and light years better than most other peers.

Given that natural gas is a commodity business, the companies with the lowest costs will typically have the highest profit margins. This suggests that as natural gas consumption and prices increase EQT, Cabot Oil & Gas, and Range Resources will be among the most profitable natural gas producers in the country.



Loaded with resources

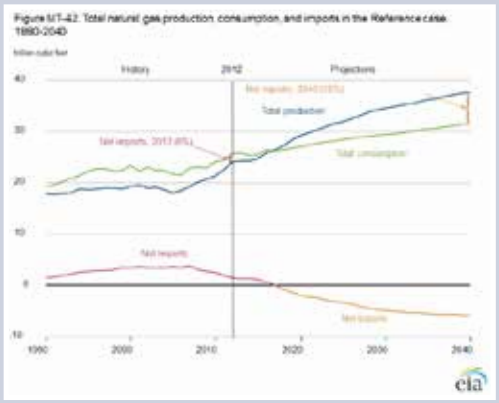
However, having low cost production is only half of the story here. What makes EQT, Cabot Oil & Gas, and Range Resources among the best stocks to invest in is the fact that all three companies are simply loaded with natural gas resource potential. Range Resources, for example, currently estimates that its total resource potential is upwards of 86 trillion cubic feet of natural gas, as noted on the following slide.

Not only is that enough natural gas to meet the needs of 86 million households for 15 years, it doesn't even include the company's resource potential in the Utica/ Point Pleasant shale. Given that the Utica Shale is starting to look extraordinary it would suggest that Range Resources has even more natural gas potential that is still to be discovered.

Likewise, Cabot Oil & Gas is loaded with natural gas growth opportunities. The company currently estimates that it has a 25 year drilling inventory in the most profitable spot within the Marcellus shale. It's a position that's currently earning the company internal rates of returns as high as 206% at a $4 natural gas price.

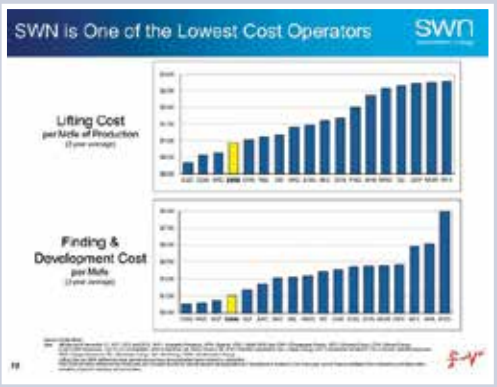
Higher natural gas prices , along with improved well costs, will only enhance Cabot Oil & Gas' rates of return in the years ahead.

EQT is also just loaded with natural gas potential. Currently the company estimates that its total resource potential sits at 44 trillion cubic feet equivalent of natural gas. Given its low cost structure, the company can earn a very strong internal rate of return as it drills and produces these resources. While its returns aren't quite as high as Cabot's, the company can still earn a very strong return of 59% across its Marcellus shale development areas. That return, however, balloons to 110% if natural gas prices hit $5, which isn't such a stretch given that consumption and exports should take gas prices higher in the future.



Investor takeaway

The best natural gas stocks to invest in are those with the lowest cost basis and vast untapped natural gas resources. That's why Range Resources, EQT, and Cabot Oil & Gas top the list of best stocks to invest in -- their cost basis is half of their closest peers, and all three are sitting on trillions upon trillions of cubic feet of natural gas resource potential.



Do you know this energy tax "loophole"?

Investing in a natural gas stock is one way to profit from the energy boom. But what you probably haven't heard is that the IRS is encouraging investors to support our growing energy renaissance, offering you a tax loophole to invest in some of America's greatest energy companies. You can learn how to take advantage of this profitable opportunity by grabbing our brand-new special report, " The IRS Is Daring You to Make This Investment Now! ," and you'll learn about the simple strategy to take advantage of a little-known IRS rule. Don't miss out on advice that could help you cut taxes for decades to come. Click here to learn more.

ENERGY WORLD

Future Fuels: Pret-a-Porter?

Douglas has more than 10 years of experience in marine fuels testing and engineering. After graduating in Chemical Engineering and Business Engineering, both at Rotterdam University, Douglas managed marine fuel oil testing laboratories in both Rotterdam as well as Singapore. In 2005 he joined Lloyd's Register, strengthening its Fuel Oil Bunkering Advisory Services, FOBAS. Douglas is an expert on problem fuels as well as solutions concerning marine fuels, providing consultancy on a daily basis to end users such as ship owners and managers.

Douglas Raiti

In the face of rising operational costs and the desire for cost-effective solutions that are compliant with environmental regulations in the foreseeable (and sometimes unforeseeable) future, ship owners and operators now find themselves in a rather interesting quandary where critical decisions pertaining to the success of their fleet in the future need to be made. These decisions more often than not revolve around more than just fuel choices alone. Shipowners have a variety of future fuel choices. Each fuel option comes with its own set of technological and economical questions that need to be thoroughly answered in order for one to arrive at a decision that makes the most commercial business sense in the long-term with minimal sacrifices to be made in the interim.

Though conventional fuels like low sulphur heavy fuel oil and marine gas oil currently continue to be the de facto choice of the industry's majority, its sustainability as marine fuel of the future has come into question in light of an evolving tightening regulatory statutory emissions landscape that has made it essential for ship operators to utilise fuels that for the most part have been blended with environmental compliance within ECAs in mind, sometimes resulting in blends that show atypical characteristics like unusually high cat fine levels, decreased viscosity and potential harmful blend components.

Moving forward, in the short term marine gas oil will displace low sulphur residual fuel oil in ECAs come 2015, and many will applaud this change from an operational perspective as gas oil is, after all, a clean product. Buyers beware, though – although gas oil may be clean but with sulphur levels less than 0.10% m/m, you cannot necessarily sail plainly. Lubricity and flash point non-compliant related incidents may well be on the rise in ECAs after January 1, 2015.

In general, an increase in the use of distillates will most likely take place, at least over the next decade furthered by a global cap of 0.50% m/m in either 2020 or 2025. According to the study on Global Marine Fuel Trends that explores the future of the shipping industry in three main foreseeable situations up to 2030 which was jointly developed by Lloyd's Register and University College London, heavy fuel oils will continue to dominate the marine fuels market between now and 2030 in all three scenarios presented, along with an increasing demand for distillates.

Methanol does not feature significantly in the forecast presented in spite of its potential as a compliant marine fuel that does not require cryogenic facilities on board the vessel. However, it was noted that the 2030 timeframe may have been too short or that it was not necessarily an appropriate solution for container vessels, bulk carriers, crude tankers or product tankers, which were the four primary vessel types upon which the study was conducted.

The concept of utilising liquefied natural gas on board sea-going vessels has been gaining in popularity due to its environmentally friendly qualities over the past few years, especially with the success it has seen on short-sea shipping routes, in particular. With recent developments indicative of a burgeoning LNG bunkering infrastructure supported by policy makers, major ports, class societies, shipbuilders, and floating storage providers on the horizon, it is evident that LNG will take off. While Lloyd's Register foresees in its Global Marine Fuel Trends study that LNG will increase to comprise 11% of total marine fuel demand in 2030, it will remain to be seen if demand will continue its upward trend beyond that point.

While LNG is certainly shaping up as an increasingly viable option that has received a warm welcome due to its ready compliance with environmental regulations expected to be coming in force over the coming years, and perhaps at face value attractive pricing point, it would still be prudent to remember that the pieces on the board have only just begun to be moved. There simply does not exist a one size fits all solution that would work for ship owners and operators across the globe, especially considering the many variables involved that could alter the potential success of either option for any particular fleet to significant degrees.

Instead of focusing solely on what looks to be the most popular option out there, it might be that one needs to first look within and examine one's own needs thoroughly before selecting an option that best suits one's business. ■

What Happens When Oil Drops Below $90 a Barrel?

Paul Ausick

Since late June, West Texas Intermediate (WTI) crude oil is down more than $10 a barrel and Brent crude is down about $8 a barrel. And nearly every oil industry analyst, participant and casual observer expects the price to continue to slide from the current Brent level of around $97.50 a barrel and the WTI price of around $93.50 a barrel.

We wanted to take a look at what could happen if WTI crude falls below $90 a barrel and stays there for a while. WTI bounced off a price below that level already in September, but it has not spent any time below $90 a barrel since January.

First, let's look at some expectations. Estimates of demand growth from OPEC, the U.S. Energy Information Administration (EIA) and the International Energy Agency (IEA) place demand growth at 900,000 to 1.05 million barrels a day in 2014, and rising to around 1.2 million to 1.3 million barrels a day in 2015.

Supply growth is projected to rise by around 1.6 million barrels a day in 2014 and 1.3 million barrels a day in 2015. Almost all of that growth will come from onshore U.S. production, particularly in North Dakota's Bakken and the Permian Basin and Eagle Ford plays in Texas.

Supply is growing faster than demand, and the next question is how much of the lost demand is permanent and how much is temporary. Improved mileage performance in new cars will only continue to destroy U.S. demand permanently. Countering that decline is increased demand from developing nations, particularly China and India, for more oil to fuel more cars. That is where the demand growth is coming from.

The problem for the major integrated oil companies is that lower prices make it difficult to fund both capital investment and investor returns. Having watched what happened in the past couple of years to top managers in the mining industry who accumulated more assets at the expense of increasing investors' returns, the captains of the oil industry are reining in capital spending and maintaining their returns to shareholders.

If oil prices fall below $90 a barrel for an extended period, capital spending at Exxon Mobil Corp. (XOM), Chevron Corp. (CVX), BP PLC (BP), Royal Dutch Shell PLC (RDS-A) and ConocoPhillips (COP) will almost certainly have to be reduced to maintain payments to shareholders.

That is a slippery slope that could eventually lead to a shortfall in supply driving prices up just as quickly as -- or more quickly than -- they fell. The benefit to consumers could evaporate virtually overnight.

U.S. pump prices are expected to fall below $3 a gallon in many U.S. states and cities by the end of 2014. Consumers will finally get some relief from prices that rose above $4 a gallon in many cities earlier this year.

And it's not just gasoline pump prices. Airline fuel consumption has dropped almost 15% since its peak in 2005, partly due to cutting down on the number of flights, but also due to flying at slower speeds and reducing weight in order to consume less fuel. Between 2004 and 2011, the average ground speed of seven major U.S. air carriers decreased by 1.1%. Planes have cut weight by eliminating magazines, heating ovens and even safety equipment for water landings if the planes don't fly over water.

Domestic jet fuel prices have fallen from around $2.90 a gallon to around $2.70 a gallon since June. Jet fuel prices may pick up slightly going forward, but that will be due largely to airlines hedging at current prices. Of course consumers aren't likely to see any reductions on ticket prices, but airline stocks should continue to prosper

The other places to look for evidence that crude prices will continue falling in the near term are the futures markets for both WTI and Brent. The most recent Commitment of Traders report from the ICE shows the lowest number of long positions since June 2012. A similar report from the NYMEX showed net long positions down 4.8% in the week ending September 23.

Some traders are looking at this as an opportunity to buy into long positions again, but the forces arrayed against a rise in crude prices now outweigh the forces that believe prices will rise soon.

The short version of the story is that if crude oil prices fall below $90 and stay there for a while, look for oil companies to do all they can to raise prices again. Besides cutting production and storing the oil in the ground, there are likely to be plenty of calls for allowing U.S. oil exports again. We haven't heard much about that recently because no member of Congress wants to be allied with exporting oil before the November elections on the off chance that crude prices might rise and export supporters might end up getting blamed for the higher oil prices. Once the votes are counted, though, the chorus will be getting tuned up.

Thuc D. Pham is a SCS researcher at the Diplomatic Academy of Vietnam.

Chinese Offshore Oil Company Fuels South China Sea Tension

The China National Offshore Oil Company (CNOOC) announced on September 15 that the HD981 oil rig has discovered a new gas field called Lingshui 17-2, some 150 kilometers south of Hainan. However, the gas field's reserves, which are still being tested, are estimated at an average operational depth of 1,500 meters, signaling that China now has the technological capability to drill anywhere in the South China Sea (SCS).

How has China developed its offshore technology?

CNOOC was established on February 15, 1982 in Beijing in order to develop the offshore oil and gas industry, in line with the Open Door policy initiated by Deng Xiaoping in 1978. The Chinese petroleum industry was at that time under the control of Chinese Premier Li Peng and his deputy Kang Shien.

In the joint book Policy Making in China: Leaders, Structures, and Processes published by Princeton University Press in 1988, Kenneth Lieberthal and Michel Oksenberg discovered that Chinese leaders and petroleum officials had rushed to the U.S., Japan, the Netherlands, Norway and other Western countries to absorb offshore technology. Many delegations traveled to Houston, New Orleans and California to make contact with multinational petroleum companies, and they identified technology of short and longer-term importance. The authors further uncovered a Chinese strategy: to engage each of these companies, stimulate their interest in China, and then play them against each other. China revealed an ability to encourage several foreign entities to believe they were favored and had earned a particular confidence and friendship.

As a result, during the last decade of the 20th century multinational oil companies became major operators and bore the majority of expenses in the concession contracts, and then production sharing agreements (PSC), with the Chinese. Since 2002, when CNOOC for the first time held 51 percent interest in the joint venture QHD 23-6 oilfield with Chevron and BP, it has taken over the operation of most projects. CNOOC has since independently constructed offshore equipment such as the multi-functional investigation vessel HD709 in 2005, the large-scale deep water geographical vessel HD720 in 2010, and particularly, the semi-submersible oil rig HD981 in 2011. The HD981 for example, is considered a 6th generation semi-submersible rig, which can operate in waters of 3,000 meters. It was designed in two steps: (i) by conducting a comparison of four platforms (the GVA7500m, F&G E&D, Aker H-4.3 and MSC DSS50), finally choosing the F&G E&D as the basis of the HD981; and (ii) through technical innovations in order to suit the extreme sea conditions of the SCS.

The F&G E&D design belongs to the Friede and Goldman Limited (F&G) in Houston. F&G has been a leader and innovator in offshore rig design for more than 60 years. More than 10 percent of the world's fleet of jack-up rigs, and more than 20 percent of the semi-submersibles, are designed by F&G. In 2010 China Communications Construction Company Limited (CCCC) bought 100 percent of F&G, and viewed the acquisition as an important strategic step in expanding its offshore construction capabilities.

Meanwhile, Thomas M. Hout and Pankaj Ghemawat in the Harvard Business Review took a comprehensive view of Chinese technology, and noted that China is quietly and deliberately shifting from a successful low and middle-tech manufacturing economy to a sophisticated high-tech one by cajoling, co-opting, and often coercing Western and Japanese businesses.

What are the implications for the SCS?

First, CNOOC has become an active player in the SCS dispute. In June 2012, CNOOC offered an international tender for nine oil and gas blocks in the SCS. However, international companies showed hesitation and did not participate in the bidding because the area is within the exclusive economic zone (EEZ) and continental shelf of Vietnam. Moreover, the deployment of the HD981 in May 2014 also illustrates CNOOC's role. Particularly during the launching ceremony of HD981 in Beijing, CNOOC Chairman Wang Yilin told audiences that large deepwater drilling rigs are "our mobile national territory and strategic weapon." Meanwhile, Michele Nash-Hoff has argued that the massive acquisition of U.S. enterprises by China, including F&G, is a problem because China is using its companies as strategic tools for territorial disputes.

Second, multinational and international enterprises should be more aware of the "strategic aspect" of their business with Chinese companies for hydrocarbon exploration and development. In other words, helping China develop the capability for deep sea drilling is one thing. However, CNOOC's international partners should be aware that the way they cooperate with China fuels tensions in the SCS, which could eventually create adverse business conditions. ■

Russian gas in Europe

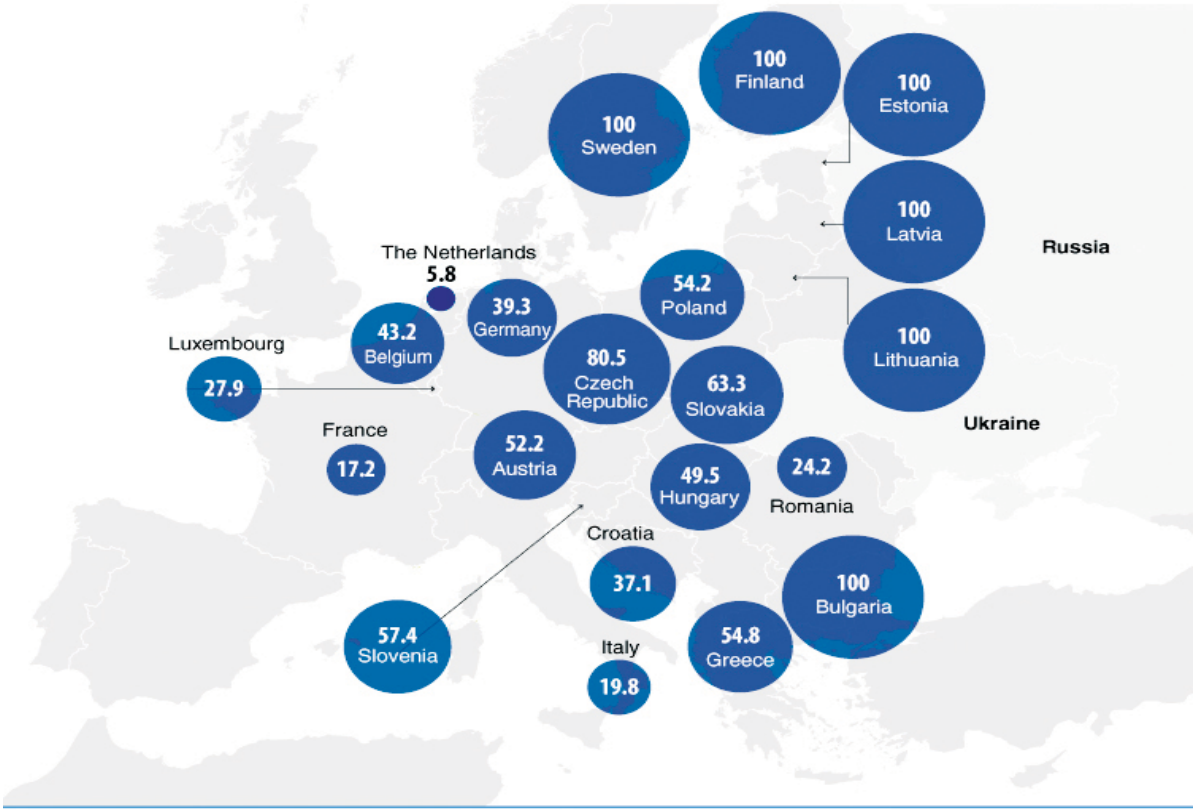
One-third of gas consumed in EU comes from Russia

EU COUNTRIES' DEPENDENCE ON RUSSIAN GAS

(share of Russian gas in the overall amount, %)

81%
of gas is delivered to the EU by pipelines

40%
of gas supplied to the EU goes through Ukraine



Russia exports

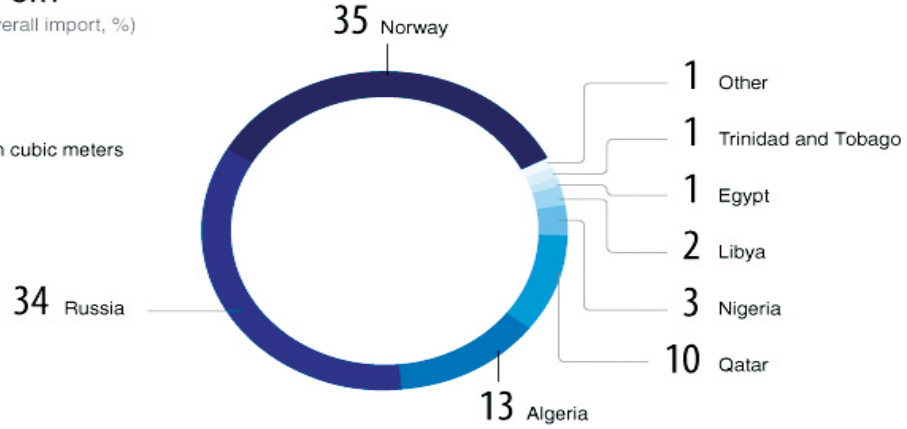
95
million cubic meters
through Nord Stream and Yamal pipelines

175
mln cubic meters a day
through Ukraine

EU GAS IMPORT

(share of the overall import, %)

Total
311.5 billion cubic meters



Oil Prices Fall and the Global Econo

omy Wins

Matthew Philips

Oil is in the midst of one of its steepest selloffs since the financial crisis, with prices falling 16 percent since mid-June. This has the Saudis contemplating even deeper cuts in oil production to keep prices from declining any further. The world's biggest crude exporter told OPEC recently that in August it reduced output by more than 400,000 barrels a day.

It's not yet clear how well that's working. The Saudi cuts were offset in part by more oil from Iran, Iraq, and Nigeria—not to mention the continued record increase in U.S. oil production thanks to the shale boom. While prices are expected to rise slightly for international blends of crude over the next six months, domestic prices in the U.S. are forecast to be cheaper by next spring. That's not necessarily great news for oil producers, but it could be good news for consumers and the global economy.

There are two schools of thought to explain the recent crash in oil prices: too little demand and too much supply. The question is which one is having the bigger influence. While the results are the same (lower oil prices), the reason for them is equally if not more important to the global economy. Demand certainly could be stronger. A stagnant economy in Europe, slower growth in China, and flat gasoline consumption in the U.S. are all tamping down prices. According to the International Energy Agency, the growth in the world's demand for oil will be the slowest this year since 2011.

But the bigger factor appears to be on the supply side, as production growth outpaces demand. That was the case last year and is shaping up to happen again in 2014.

A new report by Andrew Kenningham, senior global economist at Capital Economics, attempts to gauge the hard-to-measure global economic boost from lower oil prices. "A $10 fall in the price of oil transfers the equivalent of 0.5 percent of world GDP from oil producers to oil consumers," he writes. That in turn will have a knock-on effect on global consumption, since consumers tend to spend more of their income than businesses. Assuming consumers spend half their savings for cheaper oil, Kenningham continues, "a $10 fall in the oil price would boost global demand by 0.2 to 0.3 percent."

This means different things for different parts of the world. In Europe, for example, where policymakers are already struggling with deflation, lower oil prices will only make the European Central Bank's challenge harder in loosening its monetary policy to try and boost prices. It also might not be good news for some big oil-producing economies. Kenningham points out that while Russia and most of the Middle East will be able to weather lower prices, countries such as Brazil, Mexico, and Venezuela will be hit harder, "primarily because they have not been saving much of their oil windfalls."

Some thoughts on mass flow meters and short supply

Unni Einemo

"Unni has been writing extensively about the international bunkering and shipping market since 1997, when she joined the team that built up the Bunkerworld news service. In her capacity as Senior Editor for Bunkerworld, she has earned a reputation for accurate and insightful reporting, and is well respected for her analysis and editorial skills.She has attended numerous conferences on the bunker market and environmental aspects of shipping, and regularly attends meetings at the International Maritime Organisation as a journalist, further deepening her understanding of the regulations that govern global shipping.Unni has also participated in bunker conference as a speaker and moderator, and sat on programme committees."

Prior to joining Petromedia, she worked with an international market intelligence dept. of the Financial Times Group in London. Unni is a Masters Graduate from the School of Oriental and African Studies in London, with a major in Contemporary Politics of the Middle East.

There have been suggestions that Singapore will see a 'two-tier market' develop in the run-up to 2017, when mass flow meters (MFM) regulations come into force in the port.

One would be based on fuel oil deliveries using barges equipped with approved MFM technology, and another on deliveries using traditional volume measurement methods. It was predicted that offers from suppliers could vary by as much as $50 per metric tonne (pmt), but that these differentials would disappear by 2017, when all fuel oil barges in Singapore will have to be equipped with MFMs.

The Maritime and Port Authority (MPA) of Singapore, meanwhile, has estimated that using MFMs - averaged out over a five-year period - will push up the cost of delivering fuel oil by less than a dollar pmt.

If players think there will be a two-tier market as more MFMs are introduced, we have to ask why.

Some think the MPA is underestimating the cost impact of installing MFMs, at least initially, even taking into account that the MPA offers a lump sum of S$80,000 ($64,000) to help cover the costs of installing the technology on existing bunker tankers.

But with talk of differentials of up to $50 pmt between deliveries based on MFM readings and traditional methods, more sinister reasons spring to mind.

Singapore has been the world's biggest bunkering hub for a long time, but it hasn't always had the best reputation. In a competitive market with many suppliers, and many buyers looking for the lowest price, some may be tempted to boost profits in questionable ways.

Allegations of deliberate short deliveries, with owners being charged for more fuel than they received, have plagued Singapore's bunker market. Several short supply cases have come to light over the years involving corruption by either barge operators, bunker quantity surveyors or chief engineers, often with several of them working in collusion. The "Cappuccino effect", whereby the fuel oil volume is inflated by air entrained in fuel oil during delivery, became infamous in Singapore, and has not

really been heard of anywhere else. There are also less obvious forms of short supply that may or may not be deliberate. Bunkers are typically sold in metric tonnes, but are measured during supply by volume. The volume is converted into weight by means of the fuel density. If the density is overstated, the calculated tonnage (and the invoice) will become too high and the buyer has been short-changed on quantity. Testing agencies have often found that deviations in density on the bunker delivery note (BDN) compared to tested values favour suppliers, or in other words, there was a short-delivery.

This is one of the reasons why interest has grown in the Coriolis flow meter technology used in MFMs. The technology is said to be capable of accurately measuring mass directly, eliminating uncertainties relating to fuel density and temperatures associated with supply of heavy fuel oil (HFO).

It is also said to be able to detect entrained air in the fuel oil, which would put an end to short deliveries caused by the Cappuccino effect.

Bunkering is big business in Singapore, and the MPA has made more effort than any other port authority to enhance and protect the sector's reputation by providing a regulatory background that can allow it to flourish. The MPA says using MFMs "will not only enhance transparency in the bunkering process, but also improve operational efficiency and increase the productivity of the bunker industry" in Singapore.

It seems suspicious when some players talk about big price differentials between deliveries using MFMs measurement and those that don't. This suggestion alone seems to justify the MPAs decision to make MFMs mandatory across the board, creating a more level playing field where deliberate short supply becomes more difficult, if not impossible.

There are sceptics of MFM technology, who doubt claims that such systems will be tamper proof, and suspect some will find ways to adjust the calibration in their favour. In Singapore, all MFM systems need to be approved by the MPA to build confidence that certain standards are met.

If MFMs eliminate deliberate short supply methods, and remove uncertainty relating to density, temperature and entrained air, will there still be room for price variations between bunker suppliers?

Probably, as suppliers have different economies of scale and different approaches to margins. Some will be able to survive on low margins pmt due to high volumes.

Bunker fuel value is also a function of quality. A fuel with high levels of contaminants, even if within ISO 8217 specifications, can be worth less either because it requires more treatment on the vessel or because it gives you less 'bang for your buck'. The calorific value of fuel oil is negatively affected by high content of water, ash and sulphur.

Test data comparisons drawn up for the Bunkerworld Port Profiles show that average water content in fuel oil supplied in Singapore, while well within the ISO 8217 limit, has been consistently higher than global averages for the past five years. Percentage-wise, there have not been many off-specs for water in Singapore, but they do occur. Sometimes, a combination of high water and sodium content in fuel samples indicate sea water contamination as the possible culprit. A bit of extra water would not be detected by a mass flow meter.

There will always be a temptation for bunker suppliers to cut corners in the search for profitability, such as winning orders by offering what may look like a good deal - until you examine it more closely. Buyer beware. If something seems too good to be true, it often is. ■

ENERGY WORLD

Iran's 6-Month Petchem Output Ups by 5 Percent

Iran's petrochemical production has been boosted up to 5 percent in the first half of the Iranian calendar year (March 21-September 22) in comparison with the same period last year, an official at the National Iranian Petrochemical Company (NIPC) said.

The petrochemical production of the country has been rising since June 2013 and is expected to continue its increasing trend in the future, said Ali Mohammad Bosaqzadeh Energy World reported.

Bosaqzadeh said the surplus of Iran's petrochemical output has been exported to foreign destinations besides supplying the domestic demands.

Iran produced 40 million tons of petrochemicals in the last calendar year, with $9bln worth of its products being exported.

The country plans to increase its petrochemical exports to $12bln this year.

Iran Energy Exchange to Trade Petchems soon

Managing Director of Iran Energy Exchange (IEE) Ali Hosseini said ground has been paved for petrochemical companies to offer their products in the IEE.

"The refineries and petrochemical plants will soon sell their new products in the IEE," Hosseini said.

"In addition to gas condensate from South Pars (gas field), liquefied gas from Abadan Refinery will be also accepted under the aegis of National Iranian Oil Refining and Distribution Company," he further added.

Hosseini said crude oil trading has stopped at the IEE, but fuel oil is to be accepted for transaction.

He said that the IEE is ready to handle new petroleum and petrochemical products.

Iran produced 40mln tons of petrochemicals in the last calendar year, with $9bln worth of its products being exported.

The country plans to increase its petrochemical exports to $12bln this year.

Iranians to develop downstream petrochem industries

Mahshahr Petrochemical Special Economic Zone will increase its capacity by developing downstream industries, the deputy head of the zone said.

Qasem Amiri added that the zone's petrochemical output comprises 80 percent of non-oil exports from the southwestern province of Khuzestan.

Amiri said the booming petrochemical industry involves complicated technologies and produces a variety of fertilizers, acids, alkalis, monomers and polymers, aromatic compounds and intermediary materials.

"Low capital requirement, higher value added, more employment and a wide variety of products are among the advantages of boosting downstream production," he said.

"The zone produced 16.9 million tons below its full capacity last year, but will reach its full capacity."

The official noted that the petrochemical sector aims to transform crude oil and natural gas into more valuable products.

Amiri said 27,000 and 40,000 people are directly and indirectly working in the Mahshahr zone respectively.

"The zone plans to implement 21 projects worth $50.6 million, which will create 1,300 jobs," he said.

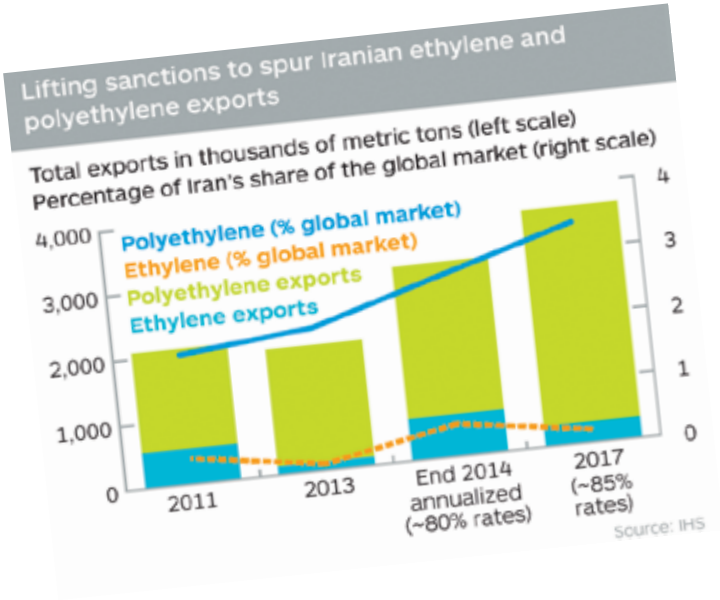
"The zone's total output comprises 43 percent of Iran's petrochemical production."

Mahshahr Special Economic Petrochemical Zone is located in the southwestern province of Khuzestan and is Iran's first specialized economic zone.

Sweden willing to invest in Iran's petrochemical industry

Sweden ambassador to Tehran has expressed Swedish investors' willingness to invest in Iranian western province Ilam petrochemical industry.

After gradual removal of EU sanctions upon Iran, a number of European countries have expressed willingness for investing in Iran's petrochemical industry.
Iranian western province, Ilam's governor said that Swedish investors are willing to invest in this province for petrochemical relations.
Shakeri added that the Swedish investors would like to establish a petrochemical complex in Chardawel, Ilam.
The investors will soon travel to Iran, Ilam to closely examine the situation there and know its capabilities and potentials.
Other investors from Germany,Turkey and Qatar had already expressed willingness to invest in South Pars Petrochemical industry projects.
Despite illegal sanctions imposed upon Iran by west, the country has been successful to absorb foreign investors in different fields through the last years.



Easing of sanctions boosts Iran's petrochemical industry

The US and European Union's partial lifting of sanctions against Iran represents a potentially important step toward eventually allowing foreign investment to return to the country's energy and petrochemical industries.
In exchange for Iran ceasing uranium enrichment beyond 5% potency, the easing of EU sanctions, from January 20, will allow the country to export petrochemicals and obtain insurance for shipped cargoes for six months while negotiators consider more permanent and expansive relief.
In the meantime, many banking, financing, oil, and investment sanctions remain in force.
As with the rest of the Iranian economy, the country's petrochemical industry has been hurt by the trade restrictions.
Ethylene exports were cut sharply from 2011 to 2013 as the inability of shipowners to secure insurance—or insurers to obtain reinsurance—for Iranian cargoes restricted bulk petrochemicals trade
Trade in polymers and methanol has also dropped dramatically. Exports of methanol—of which Iran is a key supplier on the world market—have slumped almost 30% since their 2010 peak. This has led to a price disparity on the global methanol market between those regions, principally China and India, that have continued to import comparatively inexpensive Iranian methanol and the US, Europe, and non-China Asia—a disparity that would be expected to disappear as trade resumes in these other areas.
As Western insurers resume coverage of cargoes during the six-month window, Iran's chemical exports are expected to recover somewhat. But its government's plans to roughly double petrochemical capacity to 100 million tons per annum in the coming years face upstream and downstream hurdles.
While Iran's economy is likely to rebound modestly this year, little growth is expected in its largest petrochemical-consuming industries, including construction and agribusiness. If additional sanction relief is not negotiated, its export potential will continue to be weighed down by ongoing restrictions on Iranian financial institutions, prohibition of US firms' investment in Iran's energy sector, and slowing demand growth from China.
In the long run, Iran's realization of its petrochemical ambitions hinges on its attracting capital, technology, equipment and construction expertise to build its natural gas infrastructure. Iran sits atop the world's largest reserves of gas, a key source of petrochemical feedstock; yet production fields such as the huge South Pars are producing at a fraction of their potential. Gas shortages, due to operations and infrastructure limitations, plague the country, with the recently bankrupted National Iranian Gas Company on occasion suspending supply to petrochemical complexes to keep homeowners warm.

Interim sanctions-relief measures will give Iran's petrochemical sector a needed boost. But broader relief from restrictions on Western investment in Iran are likely required if the country is to meet its longer-range production and export goals.

EU plans for Iran gas imports

The European Union is quietly increasing the urgency of a plan to import natural gas from Iran, as relations with Tehran thaw while those with top gas supplier Russia grow chillier, Reuters reported.

Two "ifs" - the removal of sanctions on Iran and the addition of some pipeline infrastructure - are not preventing EU planners preparing, a European Commission source involved in developing EU energy strategy said.

"Iran is far towards the top of our priorities for mid-term measures that will help reduce our reliance on Russian gas supplies," the source said. "Iran's gas could come to Europe quite easily and politically there is a clear rapprochement between Tehran and the West."

Russia is currently Europe's biggest supplier of natural gas, meeting a third of its demand worth $80 billion a year. The EU has imposed sanctions on Moscow over the conflict in Ukraine, increasing the need for gas from elsewhere.

While sanctioned itself, Iran has the world's second largest gas reserves after Russia and is a potential alternative given talks between Tehran and the West to reach a deal over the Islamic Republic's disputed nuclear programme.

"High potential for gas production, domestic energy sector reforms that are underway, and ongoing normalisation of its relationship with the West make Iran a credible alternative to Russia," said a paper prepared for the EU's Directorate-Generale for External Policies following Russia's annexation of Crimea.

However, the paper added that Iran was not a credible alternative energy supplier in the short-term due to sanctions and large infrastructure needs before exports become viable.

Internal EU energy security documents seen by Reuters also describe plans to tap new non-European gas import sources in central Asia, including Iran.

Iran, exploiting the reversal of old enmities caused by the upheaval of the Islamic State militants in the Middle East, is also keen to sell its gas.

"Iran can be a secure energy centre for Europe," its President Hassan Rouhani was quoted on Wednesday telling Austrian President Heinz Fischer in New York.

Tehran's assertions over reliable supply are likely to ring alarm bells at Russia's giant Gazprom, after interruptions to its exports via Ukraine in previous disputes scared Europe.

"Iran is trying to position itself in Europe as an alternative to Russian gas. It's playing a very sophisticated game, talking with Russia on the one hand about cooperation on easing sanctions and also talking to Europe about substituting Russian gas with its own," said Amir Handjani, an independent oil and gas specialist working in Dubai.

"Given Russia's current strategy politically, which is one of confrontation with Europe, I see the EU having little choice but to find alternative gas supplies," he added.

Russian petrochemical sector:

New frontier for Saudi-based converters

Adeib Jafari

Russia has all the assets to be a major world leader, with a surface area of 17,098,242 km² -- nearly twice that of the US which is 9,826,675 km² -- stretching across nine time zones from Europe to the vicinity of Japan.
In the collective consciousness in most Middle Eastern and Western countries uttering the name Russia provokes askance: Daily news of the often bloody unfolding of events in Ukraine depict Russia as the culprit as the US nudges Europe for concerted economic sanctions against its supplier for nearly half of not only its fossil fuels (oil and gas) but its nuclear feedstock as well (uranium for example).
In the not too distant past, Russia was at odds not only with its perennial rivals for world supremacy, Europe and the US, but with most of the populations it controlled then within the iron curtain of the now defunct Soviet Union.
The coming decade could see a transformational awakening in the Russian economy as it adopts gradually free market measures to diversify and strengthen. Whereas until now its bargaining power with other mighty nations (mainly Europe and China) rests on its status as an unavoidable energy supplier, the status Russia could be aiming for is to buttress its current standing with downstream industrial knowhow.
The journey could be long though, slowed by corruption presently placing Russia in an abysmal triple digit rating with Transparency International.
Russia's economic growth engines remain primary industries since oil and gas revenues contribute 52 percent to GDP and to over 70 percent of exports while sales of metals and timber constitute 14 percent of GDP, according to Petroleum Finance Company.
While Russia has a firm place amongst the top three world rich and producers of oil and gas, this standing alone will very likely fall short of helping Russia fulfill its ambition of being a superpower at par with the US in imposing its will in foreign affairs.
A quantum leap in technological developments with commercial significance across several fields is needed. The one of importance to us is petrochemicals.
It is striking to notice how far behind Russia is still stagnating in chemical and petrochemical fields, where its capacity to produce polyolefins (which make up two thirds of the thermoplastic family) is comparable to even that of Iran and Nigeria, which although OPEC's sixth largest producer, remains one of the poorest countries in the world.
Finland -- with a population a fraction of Russia's and plentiful reserves but a top ranking in Transparency International -- affords its citizens one of the highest living standards in the world and its per capita consumption of prime plastics is nearly triple its gigantic neighbor's which is still below 30kg per person per year in 2014.
Russia has however engaged in joint ventures with Western Companies to boost its thermoplastic production and is slated to become a net exporter of such products as of 2017. Although its exports then of polyolefins will still be less than a million tons per year and targeted mostly at major world net importers such as Europe and China, GCC-based producers of similar products better take notice of this potentially formidable competitor about to impose its presence among the members of the highly exclusive club of most competitive plastics producers in the world now comprising only the GCC (mostly Saudi Arabia) and the US.
By 2023 Russia is reported to be exporting nearly 5 million tons a year of polyolefins alone and a part -- however small -- of these quantities could be offered converters not only in major importing poles like Europe

and the Far East but even in the GCC if WTO regulations continue to pull down import tariffs of such products which have already gone down from 20 percent to 12 percent.
Geology and technology seem to be on Russia's side in its daunting ambition of exploiting its hydrocarbon reserves: The extraction costs of both crude oil and natural gas are quite advantageous with respect to even the GCC and the US: In natural gas, the cost of extracting one million BTU ranges from less than $5 in South Russia to less than $2.5 in West Siberia; competitive with the US and with sandstone gas which seems to be the only possible alternative in the GCC, since there is no more unallocated conventional associated gas.
In crude oil, the cost of extracting one barrel of crude ranges from $24 in East Siberia (very close to what it costs in the US) to $7 in Russia's Far East just about equal to what it costs in the GCC. Perhaps in a prescient initiative to enhance mutual economic interests Saudi Arabia has engaged Russia in exploring for gas in the Rubh Al-Khali basin in a joint venture -- Luksar Energy -- where the Russian partner has been allowed a twenty percent stake.
The major blocks to Russia's economic development -- including petrochemical developments -- seem to be the imposed sanctions subsequent to Crimea's annexation, and corruption.
Economic sanctions including boycott are causing the ruble to devaluate fast and generate inflation. This could lead to pauperization of the population through purchasing power loss and an increase in interest rates which leads to recession.
One possible remedy is for the Russian Government to resort to the Russian Stabilization Fund which was conceived in 2004, to help absorb economic adversity resulting from a sudden and hostile change in international economic circumstances toward Russia.
This fund proved effective in mitigating the woes of the 2008 global economic crisis which halted the growth of Russia's economy hitherto growing at 6 percent a year (twice the global economic growth). The Russian Stabilization Fund could very well prove to be yet again the means to overcome the present economic hurdles.
Russia has shown it can reduce corruption significantly in areas such as military technology, including aeronautics where aircraft is being converted -- albeit slowly -- to commercial applications which could compete soon with established companies like Airbus and Boeing.
Currently, Russia and its Scandinavian neighbors (Finland, Norway) are in the process of establishing a fund -- named Arctic Barents -- to jointly exploit billions of reserves of crude oil and gas underneath the Arctic Ocean.
From its incipience, the partnership suffers from a crippling incompatibility as Norway and Finland frequently succeed one another at the top of the list of Transparency International whereas Russia is very close to the bottom.
The relevance of Russia's potential emergence as a globally competitive petrochemical supplier underlies the present opportunities which could be seized by the Saudi converting sector in particular toward a new market where the per capita consumption of plastics is low yet but has been increasing steadily and will likely pick up momentum in coming years.
Recently, Europe slapped 6.5 percent in import tariffs on Saudi-made products imported to Europe which might impede the operation of recently added converting capacity in Saudi Arabia and jeopardize payback periods and delay profitability.
The nascent and emerging petrochemical sector of Russia will need modest but growing tonnage of Saudi-made plastic bags (Form Fill and Seal, FFS) to package their polymers and the underutilized Russian consumer market at large needs Saudi-made refuse bags, as well as packaging in various economic sectors: Agriculture (greenhouse, mulch, silage etc...), food and beverage chain, cosmetics, sanitation, pharmaceutical etc...
Saudi-based converters in search of export markets to fill load on machines might be well served to research the Russian demand for their products.
The increased exports by Saudi-based converters will allow Saudi-based petrochemical producers to sell more of their products domestically.
The coming months and years will be interesting as we might witness the conquest by Saudi-based converters of an awakening giant of a yet virgin market. ■

Iran's Polymer Market Extremely Potent

Iran's polymer market enjoys vast potentials which is why many foreign companies are eager to partake in the Iran Plast exhibition, said a Russian exhibitor.
Director of foreign trade department of the Russian Aleko Polymers Akhtyrskiy Dmitry said his company is willing to win a share of the Iranian polymer market given its vast potentials.
Aleko Polymers is a manufacturer of the machinery used for production of polymer and petrochemical products.
He expressed hope that his company will be able to bolster its commercial interactions with Iranian companies active in the petchem industry in the near future.
He said his company presents items at various international exhibitions in countries like Germany, Turkey, China.

India's forex reserves decline by $810 million

India's foreign exchange reserves fell by $810.7 million to $318.57 billion due to a decline in the currency assets for the week ended Aug 22, Reserve Bank of India (RBI) data showed.
The reserves declined by $643.3 million to $319.34 billion for the week ended Aug 8.
According to the RBI's weekly statistical supplement, foreign currency assets, the biggest component of the forexreserves, declined by $783 million to $291.31 billion for the week under review.
The foreign currency assets had plunged $646.7 million to $292.04 billion for the Mid Sep 2014.
The RBI said that the foreign currency assets, expressed in US dollar terms, include the effect of appreciation or depreciation of non-US currencies held in reserve such as the pound sterling, euro and yen.
India's reserve position with the International Monetary Fund (IMF) slipped by $7.9 million to $1.69 billion.
The value of special drawing rights (SDRs) was down by $19.8 million at $4.39 billion.
However, the value of gold reserves remained static at $21.17 billion. The bullion had increased by $538.9 million at $21.17 billion in mid Sep 2014.

Supplies of Russian natural gas to China

May 21, 2014, Gazprom and CNPC have signed a deal on gas supplies to China

Russia and China have signed a memorandum on understanding over natural gas supplies through the 'Eastern route'

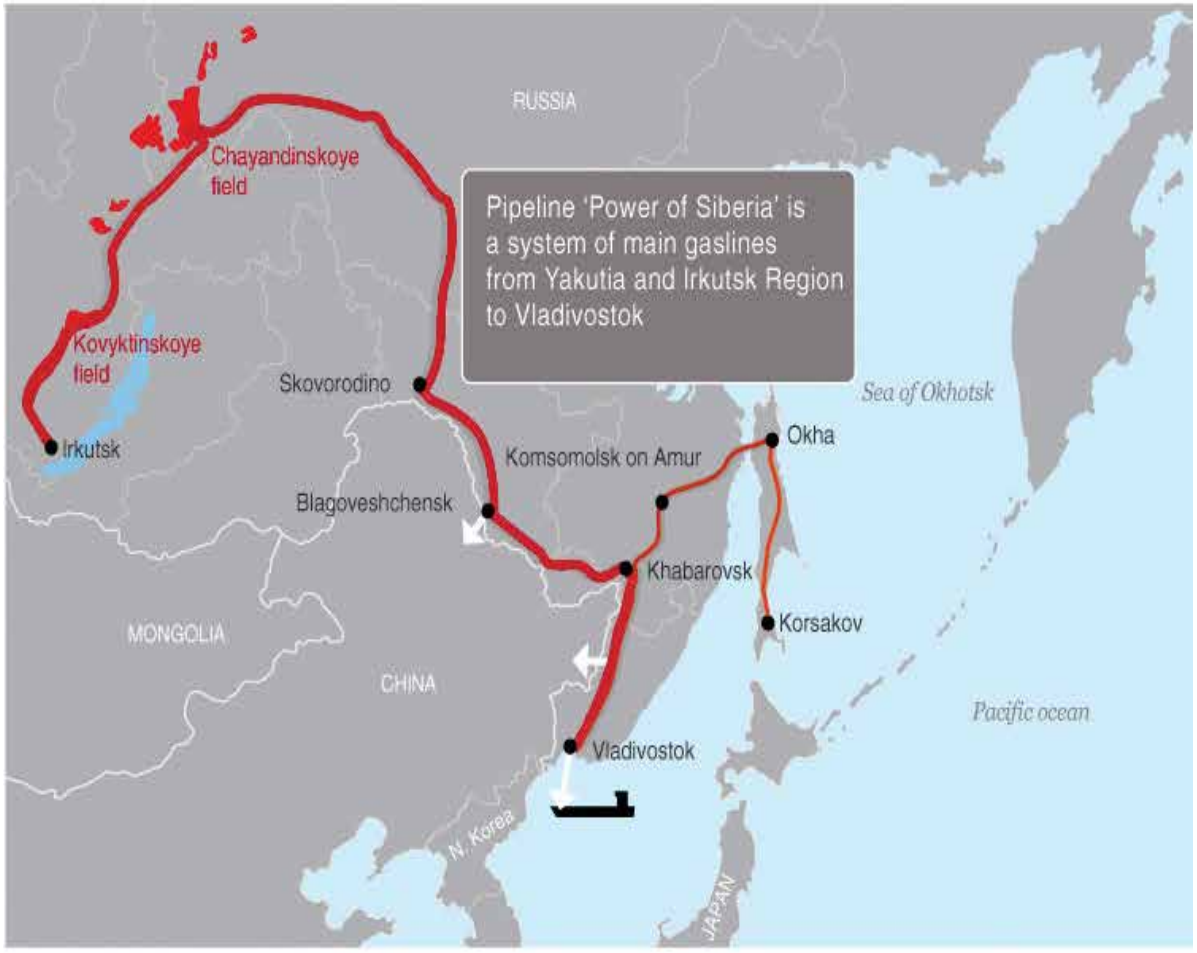
TOTAL VOLUME OF CONTRACT
$400 billion for 30 years

SUPPLIES VOLUME
38 billion cu. m. of gas annually

Pipeline 'Power of Siberia'

Pipeline Sakhalin-Vladivostok

Oil, gas and condensate fields



Pipeline length

4000 km

3200 km — Yakutia – Khabarovsk – Vladivostok

800 km — Irkutsk Reg. – Yakutia

Pipe diameter

1420 mm

Capacity

61 billion cu. m. annually

First part of Power of Siberia pipeline, main gasline Yakutia – Khabarovsk – Vladivostok to be launched in late 2017

Petchem projects slated for 2015-16

A number of petrochemical projects will go on stream in 2015 and 2016, said a director of National Petrochemical Company (NPC).
Speaking on the sidelines of the 9th Iran Plast 2014 Exhibition on Sunday, Marzieh Shahedaei said some of these projects include PVC projects of Takht-e Jamshid Petrochemical Company, development of the second phase of Kavian Petrochemical Corporation and Karoun Petrochemical Complex, completion of West Ethylene Pipeline and development of Lorestan, Kurdestan, Ilam, Mahabad and Hegmataneh petrochemical companies.
Shahedaei added that these projects have progressed by 60 percent.
"In case Iran's nuclear negotiations with P5+1 does not progress favorably, the development of petrochemical industry will be slowed," she said.
She said completion of 67 semi-complete petrochemical projects, which were scheduled to become operational by 2015, will be launched in the sixth five-year economic development plan (2015-20).
Shahedaei put the production capacity of the projects at 60 million tons per year, adding that $40 billion worth of investments are required to complete them.
"The implementation of projects, with a physical progress of less than 10 percent, will be canceled," she said.
Commenting on the latest condition of West Ethylene Pipeline project, the NPC director said the project has progressed by 13 percent.
"Lately, a major portion of the pipeline's three phases with a physical progress of 23 percent have been ceded to Tadbir Energy Development Group. Khatam Al-Anbiya Headquarters is the contractor of the project," she said.
Shahedaei noted that a number of petrochemical projects approved in 2004 are still incomplete, due to poor management of petchem industry in the past and imposition of tough Western sanctions on the country.
"The Oil Ministry provides full support to the petrochemical industry," she said.

Rising shale output disrupts US gas prices

Gregory Meyer

It was dubbed the "king of pipelines": a $6.7bn, 1,700-mile tubular highway transporting US natural gas east from the Rocky mountains to the gentle hills of Ohio.

Less than five years after the Rockies Express pipeline opened for business, its owners are now adding a westbound service. The reason? "Prolific and unforeseen growth of gas production" in the US northeast, they explain in a regulatory filing.

The new direction for the Rockies Express shows how pipeline companies are scrambling to keep up with breakthroughs in shale gas drilling. Unlike shale oil, which is booming in North Dakota and Texas, the strongest shale gas growth is in northeastern states.

In the Marcellus Shale of Pennsylvania and West Virginia, gas output has climbed 800 per cent to 16bn cubic feet per day from November 2009, the month Rockies Express opened. The adjacent Utica shale of Ohio has grown at the same rate to a more modest 1.5bn cu ft/d, according to the Energy Information Administration.

Even as new supplies bring calm to gas futures markets, conditions in the northeast are anything but. Spot gas at the Dominion South trading hub in Pennsylvania has plunged 60 per cent in the last six months, compared with a 13 per cent fall in benchmark prices.

Pipeline developers now propose to funnel the emerging glut of northeast shale gas elsewhere. If they succeed, drilling companies, consumers such as power plants and would-be exporters of liquefied natural gas (LNG) will feel the effects.

Traditionally, pipelines have carried gas from the energy-rich Gulf of Mexico coast to the populous, gas-short regions of the north. One is the Texas Eastern Transmission (Tetco) pipeline, which travels from its namesake state to the New York metropolitan area.

In November, Tetco owner Spectra Energy plans to start bringing Marcellus gas to new markets, including the Gulf coast, at volumes of 600m cu ft/d with a project called TEAM 2014. The Rockies Express east-to-west project, originating in the Utica shale, would move 1.2bn cu ft/d starting next year.

These imminent projects are the tip of the iceberg. The Williams companies' "Atlantic Sunrise" project, proposed to open in 2017, would take 1.7bn cu ft per day of Marcellus gas as far south as Georgia and Alabama. Energy Transfer Partners, another company, seeks to build a 3.25bn cu ft/d pipeline named "Rover" from the Marcellus and Utica shales to the central US Midwest and Ontario, Canada.

Teri Viswanath, gas analyst at BNP Paribas, says: "As we speak, these major transportation paths are being redefined."

Not all projects will be built, but pipeline engineers are thinking big. To illustrate the fast-changing landscape, Anne Swedberg, a senior analyst at Bentek Energy, drew a large red X across an old map of announced Northeast pipeline expansion projects as she spoke at a recent conference in New York. The capacity of the projects had more than doubled in the past two months to 32bn cu ft/d.

As of last week, spot gas at Dominion South was $1.5685 per million British thermal units, compared with $3.9028 at the Henry hub in Louisiana, according to IntercontinentalExchange.

Even as gas flows south, the price discount – known as "basis" in commodity markets – between the northeast and Henry hub will remain about $1, or roughly the pipeline tariffs, Morgan Stanley says in a note. This continuing weakness adds pressure on Marcellus gas markets and producers such as Cabot Oil & Gas, Eclipse Resources, EQT, Range Resources and Southwestern Energy, the bank says, and has cut share price targets for the companies.

As gas production surges in the northeast, trading volumes have ballooned as well. About 400m cu ft/d of physical gas was sold on the average day at Dominion South this year, up from 284m in 2009, according to ICE. By contrast, physical volumes sold at Henry averaged 233m this year, down from more than 800m in 2009.

Prices at Henry hub – the delivery location for the deep US natural gas futures market – are still the benchmark against which other regional markets are assessed. Some are starting to question its relevance, however. In a note earlier this year, Ms Viswanath asked whether Henry was becoming a "broken supply proxy".

"Now, rising Marcellus production is poised to permanently disrupt the traditional Gulf-based pricing paradigm," she wrote.

Other factors favour Henry hub's continued relevance. For example, gas exported from Cheniere Energy's new liquefaction terminal under construction at Sabine Pass, Louisiana, will be set based on the Henry market. ■

Morteza Behrouzifar:

LNG export imperative

LNG export will help Iran find its way into the remotest markets of the world, said an expert.

Morteza Behrouzifar added that sanctions imposed on Iran since 1981 have prevented the country from getting access to modern technologies.

"Unfortunately, Iran has failed to achieve a desirable position in the gas industry,"

He noted that domestic oil industry is in need of most modern technologies, adding that presently the US is the frontrunner in mastering LNG technology.

Behrouzifar said the South Pars Gas Field located in the Persian Gulf is shared between Iran and Qatar.

"Qatar, with an annual LNG production capacity of 77 million tons, has managed to exercise proper management and use modern technologies to become the largest LNG exporter worldwide," he said.

The expert pointed out that Iran is facing restrictions in the field of LNG export, noting that the country planned to start LNG export before the victory of Islamic Revolution.

"Changes taking place in Iran after the revolution and the imposition of Iraqi war brought the activities to a standstill," he said, noting that currently gas meets 70 percent of household and industrial needs for energy.

Behrouzifar noted that optimization of gas consumption will help the country export gas. He said LNG development is more economically viable than gas transfer through pipeline.

The expert also said Turkey does not seem to be willing to help Iran become an important transit route and Iran cannot trust Syria, Jordan and Azerbaijan Republic in this respect.

Stressing that Iran is the most reliable supplier of energy in the region, he said, "If we had built a pipeline for exporting gas to Europe in the past, the West could not have imposed such sanctions on Iran."

Behrouzifar believes that Iran should improve its interactions with the world, otherwise its rivals will take its place in the global markets. ■

Rosneft Announces Arctic "Victory"

There was grim news over Summer 2014 for those fighting Arctic drilling as the Russian energy giant Rosneft announced that it had struck oil in the world's most northerly well, deep in the Arctic. The $700 million well, which ironically Rosneft is calling called Pobeda, the Russian for "Victory", could contain about one billion barrels of oil.

The results of the drilling are being closely watched by many in the oil industry who see the region as its last great hope for lucrative reserves – as well as environmentalists who are equally appalled that the Arctic could be opened up for oil drilling.

The discovery of the well, some 250km off the north coast of Russia in the Kara Sea, was made jointly with Exxon Mobil, which will now have to pull out of the project due to American sanctions over Russia due to the conflict in Ukraine.

Igor Sechin, the CEO of Rosneft, who is the most powerful man in the Russian oil industry and a close confidant of President Vladimir Putin, is being bullish about the prospects of the well with or without Exxon.

"We will continue working no matter what," Sechin said in an interview to Bloomberg. "We will plan the work for next season." He also said Rosneft was planning 30 or more Arctic wells.

Sechin said the results of initial testing were really positive, after the well had been completed in near-record time. This discovery is of "exceptional significance in showing the presence of hydrocarbons in the Arctic."

"It is an astonishing sample of light oil, which based on the results of the analysis performed, is comparable to the Siberian Light oil," he continued.

Sechin went on to add that "This is our united victory, it was achieved thanks to our friends and partners from ExxonMobil, Nord Atlantic Drilling, Schlumberger, Halliburton, Weatherford, Baker, Trendsetter, FMC."

But many commentators believe it will not be that simple to proceed: according to Bloomberg Sechin has a real problem. The well was dependent on money and expertise from Exxon, which is now forbidden to carry on working in the Russian Arctic after the well is sealed.

Indeed Exxon is being far more circumspect about the well's prospects. "We have encountered hydrocarbons, but it is premature to speculate on any potential outcome," said Exxon spokesman Richard Keil. "Our current focus is on completing the well and safely winding down operations consistent with our license with the U.S. government."

The lack of Exxon's hard cash and Exxon's expertise could indeed be a stumbling block with one investment bank, VTB Capital arguing in a research note that: "We believe that to proceed with Arctic development, the company would need to drill more exploratory wells, as the stated resources are not enough, in our view, to economically justify such complicated production."

Sechin though is arguing that even if Exxon pulls out, the Russians will have no problem attracting investors, probably from China, or that the Russians will proceed on their own.

But many western oil executives and analysts believe that Russia will not be able to proceed without US or European assistance.

Meanwhile Greenpeace condemned Rosneft's plans: "An oil spill under these icy waters would have a catastrophic impact on one of the most pristine, unique and beautiful landscapes on earth," it argues. "The risks of such an accident are ever present and the oil industry's response plans remain wholly inadequate." ■

ENERGY WORLD

Blood, Oil and the Geopolitics of the Persian Persian Gulf

EVAN TAYLOR

This past August, the United States marked the 100-year centennial of the First World War by sending airstrikes over northern Iraq, a darkly fitting tribute to the cataclysm out of which the borders of the state were drawn. The direct aim of the Obama Administration was to stem the tide of the Sunni paramilitary force in the country, which has been declaring Iraq's northwest to be under the rule of a new "Islamic State" at an alarming rate. In July, 800 U.S. Special Forces soldiers were deployed to Iraq as "advisors," and although the President stated that U.S. ground combat troops would not be used in the conflict, Ray Odierno, the Army Chief of Staff, has hinted otherwise. "This is going to be a long term project," Obama declared from the White House lawn two days after the bombings run began.[1]

The President's phrase was apt, as Pentagon warplanes have been bombing Iraq for 24 years, and the present day guns of August also exhibit a more general motivation of U.S action in the region, a structural militarism where armed force is considered to be the key implement in the toolbox. In Afghanistan, Libya, Syria, Israel, Yemen, and elsewhere, the U.S. wages or supports wars, often without a stated political goal to be found. In Iraq the rationale has shifted from the threat of Saddam to the threat of insurgents, to the threat of the Islamic State, but militarism as a solution has remained the same. The August airstrikes were also easy to carry out, as the Pentagon currently operates a logistical empire in the Arabian Peninsula, with soldiers, bases, warships and drones stretching the littoral from Kuwait to the Yemeni port of Aden. Some of the current bombing runs to northern Iraq are taking off from the Persian Gulf based aircraft carrier George H. W. Bush, a reminder of the duration over which this force has been assembled. And finally there is the oil. This military footprint stands atop the epicenter of the global energy trade, featuring immense petroleum deposits that have produced immense monetary accounts and located at the crossroads of Asia, Africa, and Europe. The current bombing of Iraq, and more generally U.S. occupation of this larger area, is the manifestation of the official Washington belief that political power can be effectively gained through warfare, that blood can be used to control oil.

Today, however, such control is proving elusive. Persian Gulf states such as Iraq, Saudi Arabia, the United Arab Emirates and Qatar are looking towards other global actors, primarily China, when making economic and financial decisions. Despite the Pentagon's military colossus in the region, the oil, the money, and the people are turning to the east. As of 2009, one third of China's oil imports come from the Arab Persian Gulf states, Beijing is now the largest trading partner of Arab heavyweight Saudi Arabia, and 10% of Dubai's population is now Chinese nationals. Dozens of flights per week connect the Persian Gulf to China, and economic activity is now beginning to be conducted in the renminbi. U.S. policy is still focused on wielding the sword, but China has emerged as the largest economic force in the region, signaling a possible rupture of the historical trend equating military power to political influence.

The following essay examines this dynamic in the state of Qatar, a peninsula just over half the size of Israel jutting off the Saudi Arabian coast. Ruled by the ambitious Al Thani monarchy, Qatar holds claim to a world-class offshore natural gas supply and has spent two decades angling for status in international politics. The state was declared independent in 1971, one of the last holdings of the British Empire, and it remained a political backwater for twenty years. However since the 1990s Qatar has transformed itself into vital U.S. military ally, the nerve center of the Pentagon's West Asia dominion. Hidden in its deserts are air and army bases housing the forward operating headquarters of Central Command and the biggest U.S. Army prepositioning facility in the world. But China has emerged within the last six years as the largest export market for Qatar's natural gas, and other economic connections between the two countries have followed. Qatar is thus facing the same choices as many other states, balancing its historic ties to the U.S. with the rise of China. The situation is magnified in the Persian Gulf due to the oil wealth and heavy U.S. military footprint, but the dynamic is similar across Latin America, Africa, and Asia. Leaders in Qatar and across the world are beginning to disregard the puppet strings long assumed to be attached to imperialism, quartering Washington's troops while directing more and more of their economic and financial considerations towards Beijing.

Although political officials rarely speak publically about U.S. desire for control of petroleum, its centrality to U.S. foreign policy is not a secret to scholars. A recent special issue of the Journal of American History focused on the topic of Oil in America makes this point many times. "Over the course of the twentieth century," Toby Craig Jones wrote, "preserving the security not just of Saudi Arabia but of the entire Persian Persian Gulf region and the flow of Middle Eastern oil were among the United States' chief political-economic concerns."[2] David Painter observed that following the Second World War, the U.S. established "a vast archipelago of overseas bases," and that "the forces necessary for this strategy, mainly sea and air power, could and were used to maintain access to overseas oil reserves."[3] And Tyler Priest argued that during the 1990s, "U.S. petro-imperialism filled a post-Cold War power vacuum in the oil hot spots of the world."[4] At the time of the 2003 invasion, some critics aptly spelled out the connections between the

war and oil. In lectures given at Oxford in February 2003, David Harvey stated that the war was being waged "to keep effective control over the global economy for the next fifty years."[5] Faced with rising powers in Europe and Asia, U.S. leaders hoped that "firm control of the global oil spigot" would translate into geopolitical power. "What better way for the United States to ward off that competition and secure its own hegemonic position," Harvey asked, "than to control the price, conditions, and distribution of the key economic resource upon which those competitors rely? And what better way to do that than to use the one line of force where the US still remains all-powerful—military might?"[6] Even Alan Greenspan, the longtime U.S. chief central banker, stated in his memoir that "I am saddened that it is politically inconvenient to acknowledge what everyone knows: the Iraq war is largely about oil."[7]

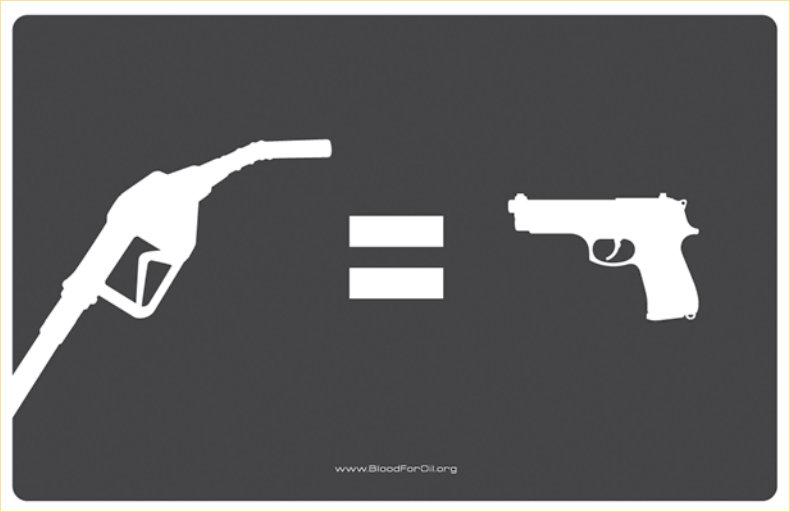
The 2003 invasion of Iraq marked the culminating moment in this trend, a decades-long foreign policy doctrine focused on using military means to influence politics in the energy heartlands of Western Asia. In the months following the oil price shocks of October 1973, when the energy producing states of the Persian Persian Gulf suddenly gained a new stature in the global order, U.S. cabinet officials discussed their desires to control the economic wealth of the region through military power. "It is essential," Henry Kissinger claimed during a meeting that November. The islands of Bahrain and Diego Garcia were to be the starting points, but the idea was to operate on a much grander scale. "We need a base in more than one place so that we aren't completely dependent," argued CIA director William Colby, and Kissinger complained that he wanted to "overthrow one of the sheikhs just to show that we can do it."[8]

Since then, every U.S administration has furthered the building of a Persian Gulf military dominion, creating both a network of bases and an ideological belief that expanding this network was necessary for control of oil. Island bases, briefing papers and war contingency studies in the 1970s led to Jimmy Carter's famous 1980 State of Union Address, where he declared security over the Persian Gulf a "vital interest" of the United States that would be defended against an "outside force…by any means necessary." Within a year of the speech, war broke out between Iraq and Iran, and the Reagan Administration spent a decade arming both sides of the bloody conflict, which by 1987 U.S. Naval forces were directly participating in. Meanwhile, the U.S. created a regional military command for the area, and Saudi Arabia constructed a $50 billion military base network specific to Pentagon and NATO designs. At the end of the decade, Saddam sent troops into Kuwait, and the U.S. put 540,000 soldiers onto Saudi Arabian soil, slaughtering the Iraq army and decimating its industrial base.

In the period that followed, which will be documented below, the construction of a U.S. military footprint across the Arabian Peninsula steadily increased, beginning before the attacks on September 11th and rapidly accelerating afterwards. Today, the Pentagon operates in Kuwait, Bahrain, Qatar, the United Arab Emirates, Oman, Yemen, and Saudi Arabia, as well as maintaining a floating base in the form of the 5th fleet naval armada. This leviathan is the center of a logistical force capable of staging operations from Egypt to China's western border. As of 2012, estimates place constant U.S. troop presence in the Persian Gulf (a figure shrouded in secrecy) between 40,000 and 50,000, a number that may be equaled by private security contractors.[9] With U.S. soldiers reinserted into Iraq in July 2014, the Pentagon is engaged with every Arab state south of Turkey.

But as the number of U.S. boots on the ground continues to grow, Persian Gulf oil business is increasingly being directed towards China, on China's terms, and denominated in the Chinese people's currency. In Qatar, Saudi Arabia, the United Arab Emirates, Iraq, and more, the story is the same. Beijing's influence is also trickling down from the commanding heights of commerce to include small business transactions and everyday connections. China is now the biggest customer for Qatari gas, holds exploration contracts in Qatari waters, engineering contracts on Qatari infrastructure projects, financial contracts with Qatari banks, and operates shopping malls to sell Chinese projects. Missing from this equation is military involvement, as Chinese soldiers make only periodic trips to the region and have no declared overseas military bases. It is clear that where the U.S. has spent the last two decades playing warrior, China, the new entry into the great game of Persian Gulf politics, is playing trader. Beijing's policy to "go west" and build connections across the Eurasian continent has reached the global crossroads of the Middle East, and both China and Arab states are finding the partnership to be fruitful.

This emerging separation of economic influence from military power is related to what Giovanni Arrighi referred to as "domination without hegemony." The U.S. has spent decades trying to control the Persian Gulf through progressive military force, and this project has resulted in an abundance of dominance but a lack of control. China and other powers are employing non-belligerent methods, and their voices are now being listened to. Meanwhile the U.S. economy—heavily distorted towards military spending and tied to the finances of oil—spectacularly crashed. As Arrighi wrote, "the most important unintended



consequence of the Iraqi adventure has been the consolidation of the tendency towards the recentering of the global economy on East Asia, and within East Asia, on China."[10] Looking at both sides of this problem complicates the question of U.S. "power" in the world. Not only expensive and immoral, the empire is also now ineffective. It was built to span the trade routes under Eurasia and secure control over the global oil spigot. It now serves as a heavily armed bodyguard for inter-Asian business deals, watching over the trade of other nations and increasingly unable to dictate the terms. Mark Twain, bemoaning the Spanish-American war and the birth of U.S. overseas colonialism in the Philippines, rewrote in 1901 the fabled Civil War marching song Battle Hymn of the Republic. Twain twisted his version to begin: "Mine eyes have seen the orgy of the launching of the sword, he is searching out the holdings where the stranger's wealth is stored." A century later, the world is now almost numb to the vulgarity of permanent war; the stranger's wealth, however, is proving harder to find.

■ ■ ■

Qatar was one of the key military relationships developed by the Pentagon after the 1991 Persian Gulf War. Directly following the wars conclusion, Qatar, along with Bahrain, Kuwait, Saudi Arabia and Oman, signed new defense pacts or updated existing agreements to allow U.S. troops to operate on their soil. By the following year, according to the Washington Post, the U.S was stationing 24,000 troops in Persian Gulf states.[11] In October 1994, Qatar formally agreed to host supplies for an Army brigade, one of three that the U.S. hoped to preposition in the Persian Gulf, and on a March 1995 tour of the region, Secretary of Defense William Perry struck a preliminary deal for 4,000 troops to be posted in the peninsula.[12]

In the background of the budding U.S.-Qatar alliance was the continued war against Iraq maintained from 1991 through 2003, a regime of airtime surveillance, bombing, and sanctioning dryly termed "containment" in official discourse. In its longest air campaign since the Vietnam War, the Pentagon operated an average of 34,000 flights a year over Iraq. By the end of the decade, the cost of the program amounted to over $1 billion per year. Hans von Sponek, who coordinated the UN Humanitarian Program in Iraq from 1998-2000, stated that "there were bombing incidents every three days" during his time in the country.[13] In a turn of doublespeak, the U.S. Air Force awarded a medal for this air siege under the official campaign name of "Southwest Asia Ceasefire."[14] Meanwhile, in order to facilitate and expand these activities, the Pentagon began to build large military bases and preposition tens of thousands of troops, tanks, and warplanes in the Persian Gulf, with ground broken on new facilities in Qatar, Bahrain, and Saudi Arabia. In 1995 the U.S. Navy introduced its Fifth Fleet armada to be based in Bahrain, and in 1999 Central Command expanded its area of operations to include Central Asia. Already by 1997, according to the calculations of Graham Fuller, U.S. taxpayers were spending $30 to $60 billion a year on military efforts in the region.[15]

The Qatari palace coup in June 1995 solidified cooperation with the U.S. military. While his father was vacationing in Geneva, Hamad bin Khalifa Al Thani, the longtime heir to the throne, declared himself king. The new Qatari emir had studied at Britain's Sandhurst military academy and risen to be a chief general in the Qatari military and an influential voice on domestic affairs. Hamad was eager to align Qatar with U.S. and other international interests, and willing to spend the money to do so. The 1995 royal succession signaled the beginning of, "an era of apparently unlimited budgets" as the historian Allen Fromherz puts it.[16] Five months after the coup, Hamad signed a $4 billion agreement with the Enron Corporation to develop part of Qatar's North Field gas reserve, the largest non-associated gas field in the world. Enron hoped to export the gas to India and, notably, Israel.[17] Other U.S. oil interests that entered Qatar during this time included Mobil Oil and Occidental Petroleum. In 1997, the Ras Laffan complex opened, a giant refinery project pitched as an "industrial city" to serve the North Field.

But the most tangible sign of the king's political orientation was the construction of air force and army bases for the U.S. military. Within months of the coup, Charlie Smithers, an Army Lieutenant Colonel assigned to Central Command, was tasked with establishing a new prepositioning facility in Qatar, what would become today's Camp As Sayliyah. Less than 90 days later, Army gear had arrived on the peninsula.[18]

In 1997, Dyncorp was awarded a $14 million contract to protect U.S. Army instillations in Qatar. By August 2000, a 262-acre, climate-controlled warehouse lot on the dusty outskirts of Doha was complete, and the ITT Corporation was awarded a $53 million contract to service the new army base (a deal that continues through today).[19] "The value of this contract is expected to increase dramatically over time," reads the prescient ITT press release, "as the United States policy towards deployment of troops and equipment shifts from other locations in the Middle East to Qatar." By November 2000, when Secretary of Defense William Cohen visited the base, there were more than 60 troops, 100 tanks, and 100 Bradley fighting vehicles on hand.[20]

The U.S. Air Force also held designs on the peninsula. In June 1996, Qatar hosted a squadron of 30 U.S. fighter jets for a two-month stay as part of Operation Southern Watch, one of the two air campaigns in Iraq.[21] At the same time, construction began on the Al Udeid air base an hour outside of Doha. Al Udeid, paid for out of Qatari coffers, was a field-of-dreams wooing of the Pentagon, a word class facility for a Qatari air force that didn't exist. We shall build it and they will come, as one analyst described it, Qatar laying the groundwork for the Persian Gulf region's longest runway and hangers capable of holding 80 planes. In 1999, the Pentagon began putting out service contracts that indicated permanent designs for the base. The Defense Energy Support Agency solicited bids for a fuel shipping and processing center capable of delivering a million gallons per day of jet fuel to Al Udeid, and the Air Force announced a War Reserve Preposition center contracts for Qatar, Bahrain, and Oman.

Although in retrospect this history is possible to tease out, at the time it was very hush-hush, out of political concerns in both Washington and Arab capitals. Not even the U.S. Congress was in on the plans. In 1997, a group of Senators from the Appropriations Committee visited the region and came away "aghast," in the words of Alaska's Ted Stevens, at the radical logistical

footprint being constructed in the Balkans and Persian Persian Gulf. Reportedly, the Senate delegation was told by U.S. military officers that they were planning for a 20- to 50-year deployment in the Persian Gulf."[22] "Serious policy issues regarding a continued long-term presence in this region must be addressed," the Senators wrote in an unpublished report leaked to the Associated Press.[1]

By the final year of the Clinton administration, military officials began to hint at the accelerating U.S. plans in the Persian Gulf. Secretary of Defense William Cohen, speaking from Kuwait following a long regional trip in April 2000, stated that Al Udeid "may be used in the future, in a crisis situation." Reportedly, the Qatari government had asked Cohen to station 10,000 permanent U.S. troops at the base.[23] Although this offer was declined at the time, it was clear that preparations were under way to lay a large military footprint in the region. That summer, during his confirmation hearing to become Regional Commander of Central Command, General Tommy Franks revealed that the Air Force had already constructed a $32 million storage site at Al Udeid, and hoped to build a fuel system in the next two years. A Pentagon report to Congress from March 2001, titled Allied Contributions to the Common Defense, lays out the extent to which Qatar was already set to become the new U.S. regional military hub. "The United States Air Force recently established a limited prepositioning facility at Qatar's Al Udeid Airbase and is investigating moving to the airfield. Qatar also hosts prepositioned U.S. Army assets at As Sayliyah," reads the Donald Rumsfeld signed report.[24]

Six months later, on September 11th, the "crisis situation" that Cohen had spoken of hit, and plans for a permanent U.S. presence were rapidly accelerated. Starting in October 2001, Air Force engineers began working 12-hour shifts to prepare Al Udeid for U.S. troops. One of the engineers, Master Sargent Evander Andrews, was crushed by a forklift on October 10th, and the base was briefly referred to as Camp Andy in his honor.[25] By April 2002, 2,000 American troops were already stationed at Al Udeid, along with fighter jets, tankers, and surveillance aircraft. [26] By June there were 3,000 troops. The Pentagon also went about soliciting bids for the bases, for technical and administrative management, barracks construction, 10,000 gallons of antifreeze, and toxic waste disposal. Starting in February 2003, Central Command transferred control of the air war in Afghanistan from Saudi Arabia's Prince Sultan Airbase to Al Udeid. The first month of the Iraq war, including the devastating Shock and Awe bombing campaign, was run from Saudi Arabia, and then the personnel were moved to Qatar. With this shift, the Combined Air Operations Center at Al-Udeid became the hub of all U.S. military air operations from Afghanistan to Africa, as it remains today.

Camp As Sayliyah, the U.S. Army base in Qatar, also underwent a transformation in 2002 and 2003, becoming the heart of propaganda operations for the coalition forces in Iraq. Starting in December 2002, under the guise of the Internal Look military exercise, the Pentagon brought thousands of troops and command and control systems to the Army base. They never left. When the war began, General Tommy Franks held his version of the five o'clock follies from the base, a sterile compound far away from the trauma of Iraq. Warehouses contained hundreds of tanks and Bradley fighting vehicles, and double-stacked shipping containers were turned into housing for troops. The base also featured as a playground for American G.I., the center of the Army's rest and recuperation program from 2002 through 2011. Gyms, swimming pools, miniature golf and 24-hour restaurants that served alcohol were housed at the facility, and tours of Qatar were organized for the soldiers, where they could ride jet skis, play golf, or go boating.[27]

Already by the start of the war, the base had become both the largest Army prepositioning facility in the world and the forward operating headquarters of Central Command. In June 2003, George W. Bush visited Qatar as part of a premature victory tour for Iraq, the first sitting U.S. president to visit the now vital state. "In the battle of Iraq, you set an example of skill and daring that will stand for all time," Bush proclaimed to the soldiers assembled at As Sayliyah. "The very first strike in the liberation of Iraq started from right here, and many others followed. Missions of mercy are directed from here."[28]

As the occupation of Iraq progressed, the U.S. continued to upgrade the Qatari bases. Construction soon started on a $500 million upgrade to Al Udeid, central to the effort a hulking 104,000 square foot Air Force command facility paid for in large part by the Qatari government. Lt. Gen. Walter Buchanan, head of Central Command's air operations, stated at the time that the Pentagon expected to use the Qatari facility for "at least another decade or two."[29] According to data gathered by the Congressional Research Service, Congress authorized $126 million for U.S. military construction in Qatar between 2003 and 2007.[30] Since then, the U.S. has spent more than double this, continuing to upgrade its Qatari military facilities to the tune of $313 million.

During the Obama administration, the U.S. military relationship with Qatar has continued to strengthen. Arms sales to Qatar, not previously a feature of U.S. policy, have totaled $24 billion over the past four years. Part of a larger spike in U.S. weapons sales to the Persian Gulf, Qatar's new U.S. supplied arsenal includes $15 billion worth of missile defense systems, a fleet of dozens of attack helicopters, and a battery of thousands of rockets. In 2012, the Pentagon set up a powerful X band radar system at an unnamed Qatari location, similar to already existing radar systems in Israel and Turkey.[31] U.S. Naval officials, worried over the anti-government protests in Bahrain, have also recently expressed desires to acquire a naval facility on the peninsula, likely to be located at the massive New Port Project being built south of Doha, which includes a large facility for the small Qatari Navy.[32]

When military deals are put in the context of the larger U.S.-Qatar trade relationship, it becomes clear that national security interests are the dominant force driving ties between the two states. Data provided by the U.S. Census Bureau indicates that the vast majority of imports to Qatar are in the category of machinery and transportation equipment, the chief industries for military preparedness. U.S. yearly exports to Qatar in this category grew from $142 million in 1996 (out of a total $200 million exports to Qatar) to $965 million in 2006 (out of a total $1.2 billion) to nearly $3 billion in 2013.[33] Numbers in the other nine general categories tracked by the Census Bureau are rarely one-tenth this size. The year

ending in December 2008 stands as a good example of this trend. Total exports of U.S. goods to Qatar topped $2 billion for the first time that year, reaching $2.7 billion dollars. However, over $700 million of that was aviation equipment. The prior year, guided missiles alone had made up 10% of U.S. machinery exports to Qatar.[34] In terms of imports, the U.S. takes in a middling amount of Qatari products, almost all related to energy sector. Imports did rise noticeably in recent years, more than doubling to $1 billion between 2010 and 2012. But still, the U.S. is only Qatar's 14th largest export market, behind many states in Asia and Europe. Overall, there is little evidence that economic connections have diversified away from the nexus of military, heavy industry, and energy. There is a common trope that the purpose of U.S. foreign policy is to sell Coca-Cola and Levis. It seems that in Qatar, its purpose is to sell Boeing airplanes, runways included.

The one exception to this pattern is in the field of higher education and intellectual production. Over the past decade, Qatar has attempted to foster a "knowledge-based economy," anchored by the heft of the Doha based Al Jazeera, now a respected global competitor to the BBC and CNN. One of Qatar's main thrusts in this regard was the creation of "Education City," a 14 square kilometer compound that houses branches of six American university departments: foreign service instruction from Georgetown, journalism from Northwestern, medical training from Cornell, engineering and business from Texan A&M and Carnegie Mellon, and art from Virginia Commonwealth. In 2001, the RAND Corporation, the Air Force contractor turned research institute, was also hired to redesign the curriculum for Qatari primary education. However, Justin Gengler, a senior researcher at Qatar University's Social and Economic Survey Research Institute, has observed that Qatari citizens are becoming increasingly disturbed at the ongoing Americanization of educational culture, and making moves to revitalize traditional Islamic and Arab social values. "Such public misgivings over Western domination—with RAND's historical ties to the U.S. military adding fuel to the fire,' Gengler wrote in a recent publication, have "spurred wide-ranging efforts to reassert national and cultural ownership over the educational sphere."[35] English language instruction has been cancelled, and enrollment in the Education City campus is lagging. Al Jazeera, of course, has strongly antagonized Washington at times, and the U.S. military has (perhaps accidently) bombed Al Jazeera bureaus on multiple occasions. As can be seen, even when trying to build what some may call "soft power" ties, the U.S. finds itself stuck in the corner, unable to shake off the image of the spiked colossus.

■■■

The world, however, is bigger than Washington, and Pentagon domination in Qatar has not brought about an associated economic hegemony in the state or the region. Over the past five years, China has become the leading trading partner of Qatar, as it is with other states in the Persian Gulf. China's ever increasing appetite for fossil fuels lays the bedrock of this partnership, but connections are permeating across the social spectrum. By practicing what Ellen Frost terms "China's new commercial diplomacy," Beijing has been able to create government to government, business to business, and person to person relations. As Frost writes, this form of diplomacy "puts a premium on the balance of power in the form of influence rather than the balance of power defined as potential force."[36] Whereas U.S. policy has focused on creating military ties, limiting influence to a relatively small sector of arms and oilmen, China's commercial diplomacy fosters connections from top to bottom of society. Decidedly, Beijing has also eschewed the desire for a military role in the region. "What is striking about the Persian Gulf-China relationship" observed Jon Alterman, a former top State Department official, "is how economically driven it is, compared to U.S. relationships with each party. China relies on security in the Middle East, but it does not feel obligated to promote it."[37]

Like much in todays Qatar, the story begins with gas, of which the world's third largest supply is located off shore. Natural gas is particularly attractive to China as a cleaner alternative to oil and coal, and Beijing's long-term energy goals have embraced the fuel. Despite recent efforts to develop their own domestic gas supplies through potential shale reserves in Xinjiang's Tarim Basin (a project that will exacerbate water-scarcity problems in the country), China will continue to increase their gas imports from a wide range of partners including Qatar, Turkmenistan, Russia, Indonesia, and Australia.

A convenient starting point for today's relationship between China and Qatar is April 2008, when Beijing announced a 25-year gas deal with Qatar. Under the agreement, the state owned Qatargas would deliver 2 million tons of LNG per year to the China National Offshore Oil Company (CNOOC) and 3 million tons per year to PetroChina, a subsidiary of the Chinese National Petroleum Company. Months later, Qatar Petroleum International (QPI) announced that it was partnering with Royal Dutch Shell and PetroChina to build a $10 billion refinery and petrochemical plant at Taizhou, in China's coastal Zhejiang province.[38] China has gone on a coastal refinery binge over the past years, and this combination of import contract and refinery is the blueprint that Beijing has followed in its relationships with major energy exporters like Saudi Arabia, Kuwait, Russia and Venezuela. Qatar, with a long term Chinese partnership secure, has more than doubled its gas capacity since 2009, investing in three of the world's largest LNG plants, reaching 77 million tons of production capacity by 2011, more than a quarter the worlds total LNG capacity.[39] It is now the world's largest exporter of LNG, although Australia is close behind. China's gas appetite has matched Qatar's growth. In November 2009, only one month after China began receiving its first LNG shipments from Qatar, CNOOC announced that starting in 2013 it would buy an additional five million tons of gas, and PetroChina an additional two million tons. Imports at this level moved China past Japan as Qatar's largest energy customer. "China is the center today of the new LNG compass," stated oil minister Abdulla al-Atiya in January 2011 at the opening of a Qatargas office in Beijing.[40] Solidifying these bold pronouncements, however, has been a slow process. In 2010, only 1.2 million tons of LNG were delivered to CNOOC, and none to PetroChina, and as of July 2011 the agreement for an additional seven million tons had yet to be finalized, with talks still ongoing.[41] These

delays can be partly attributed to the booming international growth in shale gas production, which is being ramped up in Australia and the U.S, and thus creating a high-stakes world market. But it is important to remember that China has a long-term view, and all of the above has taken place within the first three years of a 25-year binding agreement. Henry Kissinger, in his recent book On China, argued that where the U.S. is playing a game of checkers with the world, China is playing out the slower strategy of Go. Even if upgrades to this relationship have not yet been finalized, that is the direction they are heading in, and it is safe to anticipate they will progress, as both Qatar and China have a lot to gain from a long-term energy partnership.

Flush with gas profits, Qatar has made major infrastructure investments in the energy and transportation sectors, a national project accelerated by the kingdom being awarded the 2022 World Cup. Chinese companies have taken advantage of this investment boom and poured money into the peninsula. Most important to Beijing are two oil and gas exploration concessions awarded to CNOOC and PetroChina in 2009 and 2010. CNOOC, China's largest producer of offshore oil, signed a 25-year exploration deal in August 2009 for Qatar's block BC. Notably, this was the first time Qatar had awarded an exploration contract, known as an "Exploration and Production Sharing Agreement" (EPSA), to an Asian company. Under the agreement, CNOOC promised to dig three wells and invest $100 million in the project over the next five years.[42]

PetroChina quickly followed their rival, announcing the following spring a 30-year partnership with Shell oil to explore an 8,000 square km field known as Block D.[43]

The contracts have continued to accumulate. In July 2012, PetroChina acquired a 40% stake in the EPSA for Qatar's Block 4, a 2,500 square kilometer concession that borders the North Field, one of the world's most plentiful offshore gas deposits.

Chinese companies have made inroads into other Qatari economic sectors. The 46 story Doha tower, completed in 2012, was built by the China State Construction Engineering Company, and in 2011, China Harbour won an $879 million contract to build the first phase of a deep-water port at Qatar's industrial port project at Mesaieed, 30 miles south of Doha. China Harbour plans to construct quays and wave barriers, and dig a 50-foot deep trench, the beginnings of a $5.5 billion project. [44] The Mesaieed deep-water port is being touted as one of a number of billion dollar transportation projects being constructed in anticipation of the World Cup, including a new railway and metro system, a new airport, and a bridge to the neighboring island-state of Bahrain. Qatar is also part of a new railway network being planning for the Arabia peninsula, no doubt of interests to Chinese firms who are now among the worlds most advanced builders of rail. Saudi Arabia has already opened a rail line to mecca built by Chinese firms, and Israel has agreements with Chinese companies to build tracks from the Red Sea to the Mediterranean. According to congressional testimony given by Bryant Edwards, a Hong Kong based banker for the firms Lathan and Watkins, "Chinese contractors are building approximately 45% (by value) of the infrastructure and transportation projects run by non-Middle East contractors," compared to U.S. firms, which "have approximately 9% of such contracts."[45]

In order to facilitate this business, Qatar's major airline, Qatar Airways, has become one of three major Persian Gulf air carriers (along with the Dubai based Emirates and Etihad) to offer flights to the new, burgeoning industrial centers of inland China, some of the first international airlines to do so. While these cities were previously on the periphery, rapid industrialization is quickly making them into global metropoles. In 2011, Qatar Airways began offering non-stop flights to Chongqing, the emerging capital of western China. While the flights currently run 3 days a week, the plan is to make them a daily affair. Emirates Air began flying similar routes to Urumqi and Chengdu, and the companies also increased the frequency of flights to Beijing and Shanghai. As of 2011, Qatar Airways offered 35 flights a week to mainland China.[46]

In the retail sector, China's Dragon Mart announced in 2011 that they would open up a giant shopping mall in Doha for Chinese products. For comparison, the Dragon Mart in Dubai is 1.2 kilometers long, houses 4,000 shops, and has been so successful that a planned expansion includes a hotel and second mall.[47] Qatar's mega mall is the centerpiece of a planned Chinese township, at Al Wakrah, a portside city halfway between Doha and Mesaieed. Referred to in business plans as a Qatari "China Town," the planned community will feature infrastructure for 1,000 apartments, 100 villas, and a 500-person workers dormitory. It will also have a dedicated logistics center for the shipment and storage of goods.[48] Plans for the Al Wakrah development, however, are being delayed. Latest reports indicate that Chinese employees will be living with the rest of Qatar's many Asian migrants in the recently opened West End Park development, which plans to house as many as 80,000 of the low wage workers in a complex that supposedly will includes sports fields, movie theaters and shopping malls.[49]

Although the Chinatown of Qatar is still just in blueprints, the Arabtown of China is already thriving. Yiwu, a boom city two hours southwest of Shanghai, has become over the past decade a center of Chinese-Arab small business connections. Yiwu's biggest drawing point is its 4 million square foot central marketplace, one of 20 in the city. The city "is home to tens of thousands of wholesale retailers, the sort of shops that sell Mecca souvenirs and teddy bears and vacuum cleaners and shoes and undergarments and blenders that fill up Middle Eastern bazaars," writes Afshin Molavi, a scholar at Johns Hopkins School for Advanced International Studies. [50] And outposts of culture have followed the commerce, from a mosque where thousands pray to Arabic restaurants and Islamic schools. Ben Simpfendorfer, a former analyst at the Royal Bank of Scotland and author of the book The New Silk Road, states that Yiwu represents "the fact that relations between China and the Middle East are very much the result of individuals."[51]

A clearer picture of the effect of commercial diplomacy would be harder to find. While state-to-state interactions provided the initial impetus for growth in the China-Qatar relationship, private citizens and businessmen have taken the reins and are pushing forward new connections on their own terms. In an episode telling of the new orientation of the

commercial compass, a reporter for London's Daily Telegraph visited Yiwu in March 2013, hoping to track down the source of the cheap products that have started to flood Britain's high streets. Finding a poorly worded label for a puzzle of the London Bridge, the reported elicited an apologetic shrug from the seller. "Most of our clients are from the Middle East."[52]

Larger Export-Import trade statistics reflect this trend. According to IMF data, Chinese exports to Qatar stood at $61 million in 2003, when the U.S. invaded Iraq.[53] They have grown rapidly since. From 2008-2013 Chinese exports to Qatar averaged nearly $1 billion a year. This is still less than half of U.S. exports, but China is catching up rapidly. And relatively few of Chinese exports are of massive turnkey infrastructure projects. The Heritage Foundation, a conservative Washington think tank, keeps a comprehensive database of all overseas Chinese investments and contracts valued at over $100 million. They identify only five such deals involving Qatar since 2006: A $540 million real estate deal in 2006, a $100 million oil investment in 2009, a pair of shipping and construction contracts in January 2011 together valued at $1.5 billion, and a $100 million construction contract in December 2011.[54] While these type of large projects are important to Beijing, also important is what isn't listed, namely the other two thirds of Chinese exports to Qatar during this time, made up of small transactions under $100 million, the vacuum cleaners and teddy bears described above. The Chinese people spent the past decades creating a global workshop, and Qatar, like everywhere else, is buying. Chinese imports from Qatar, meanwhile, have skyrocketed (carried no doubt by tankers full of liquefied gas), from $443 million in 2000 to $7.2 billion in 2012. These numbers far outpace U.S. imports from Qatar.

Perhaps most important, however, is the growing financial cooperation between China and Qatar. China's first Persian Gulf banking institution opened in Qatar in 2008, a Doha branch of Industrial and Commercial Bank of China, the world largest bank by market value.[55] The following year, Qatar opened a government investment office in Beijing to help streamline the growing trade between the two states.[56] This has led to a Qatari investment in two of the three largest Chinese banks, which have all held IPO's in the past decade: a $3.5 billion stake in the Agricultural Bank of China, and a stake bought from Bank of America in the Chinese Construction Bank.[57]

A six day visit to the region by Chinese Prime Minister Wen Jiabo in January 2012 solidified Beijing's financial relations with the Persian Gulf. Wen's first stop was the Emirates, where a three-year currency-exchange agreement was finalized in Dubai, injecting $35 billion of the Chinese renminbi ($5.5 billion US) into the dizzying maelstrom of Persian Gulf wealth. The ramifications of this deal were bluntly put by Reuters: "Beijing's long-term ambition is to unseat the dollar as the dominant unit of international settlement for cross-border trade in goods and services, especially now that China is the world's single largest exporting nation and the second largest importer."[58]

While the Reuters correspondent may have overstated the possible end result, Beijing's push to internationalize its money is very real. The Chinese government is currently increasing the use of the Renminbi (RMB) in cross-border trade, proposing currency exchanges with other central banks, facilitating the creation of offshore RMB marketplaces in financial centers like Hong Kong and London, and handing out RMB denominated loans. In the first six months of 2012 following Wen's visit to the Persian Gulf, almost 11% of China's imports and exports were settled in RMB according to a report from Chatham House, compared with 2% for all of 2010.[59]

Doha was next on the Prime Minister's agenda. He finalized the agreement for the refinery at Taizhou and solidified the long-term gas partnership between China and Qatar. On trade matters, Wen celebrated the fact that China-Qatar bilateral trade had passed the $5 billion mark in 2011, and encouraged more investment into Qatar by private Chinese small and medium enterprises. This was the follow-up to a cooperation agreement signed between the Qatari Businessmen Association and the China Qatar Business Council.[60] Wen then dropped a bombshell, stating at a press conference, "in order to address investment issues, we [China and Qatar] need financial support. Therefore, we reached another agreement, a cooperation agreement linking finance with investment. Qatar also proposed the use of local currency in trade settlement and even a specific ratio. I think this proposal can be studied."[61]

Wen's mention of "local currency" no doubt turned heads in Washington and New York. Qatar, the nerve center of the Pentagon's Middle East military network, was now planning to be flush with oil-slicked yuan. In April 2014, officials from the Chinese Central Bank visited Doha and renewed the financial agreements.[62] One month earlier, Nasser Saidi, the former Chief economist of the Dubai International Financial Centre, wrote in an op-ed that the financial future of the Persian Gulf lies in the east. "The tectonic shift in global economic and financial geography," currently taking place, he stated, "undermines the inherited web of alliances, institutions and treaties forged in the aftermath of World War II." A worldwide network is being built, "that represents the global demand and supply chains emerging from China whose tendrils are growing into Asia, Africa, the Middle East and Latin America." This "New Silk Road" as he (and many others) call it, will include a monetary "Redback Zone" where "payments, capital markets and banking and financial assets and transactions will be based on the Renminbi as an international currency," as it is now "economically inefficient to use dollars and euros to finance GCC-China trade and investment links."[63]

■ ■ ■

What are we to make of this duality, of Western military dominance in conjunction with a growing Chinese economic power? As of June 2014, after numerous delays, Qatar's Dragon Mart is set to open for business. Five hundred workers are being hired, and 200 stalls have been filled. Already 6,000 Chinese nationals live in Qatar, and more are following. At the same time, airstrikes are once again being launched against Iraq, planned no doubt out of the Pentagon's installations on the peninsula. How these two trends will converge in the future is the all-important question for the region. Dave Eggers, one of America's leading literary figures, put the dilemma well in A Hologram for the King,

his 2012 novel about an American business consultant unable to secure an economic contract in Saudi Arabia. "It'll be interesting now that the Chinese buy more of the King's oil," a Saudi woman remarked to the American. "I wonder if Abdullah and the whole crew will suddenly shift their allegiances. Maybe you're no longer the favorite."[64]

The above research points to a few important fault lines for how this situation may play out in Qatar and the rest of the Persian Gulf.

First, it is clear that in the military sphere, U.S. dominance is not waning. The bases are only becoming more entrenched, the number of GIs and mercenaries is growing, and billion dollar arms sales are the norm. As shown above, this is not a "post 9/11" policy, but a longer term trend that has now gathered its own momentum. Qatar has also been an active funder of the anti-government paramilitary forces in Libya and Syria, fighters that were and are being supported by the U.S. This often clashes with Chinese interests, especially in Syria, where Beijing saw the Assad government pre-2011 as the "cohesive force" in the region.[65] Evident here is the current limitations of Chinese policy—its lack of influence in strategic and security matters—as well as an area for its potential growth. Perhaps in the future, China, through economic ultimatums, will be able to restrain states like Qatar in participating in what Beijing sees as actions harmful to Chin in the region. Qatar, meanwhile, is not simply a vassal for the U.S. agenda in the region, with Doha frequently serving as a deal maker for "rogue" governments like the Taliban, Hezbollah, and Hamas, and playing a complicated with Saudi Arabia over support for the Muslim Brotherhood. John Kerry, then still a Senator, remarked after a visit in 2009 that "Qatar can't continue to be an American ally on Monday that sends money to Hamas on Tuesday."[66] The Qatari leadership has not appeared to take Kerry's warning very seriously.

Second, China may be moving ahead of the U.S. in establishing the building blocks for a long-term economic relationship with Qatar. Between the U.S. and Qatar, there is little on the ground interaction that does not involve the military, military contractors, or oil companies. This is not accidental, but reflects the specific nature of U.S. policy. "Our garrisons," wrote Chalmers Johnson, "send a daily message that the United States prefers to deal with other nations through the use or threat of force rather than negotiations, commerce or cultural interactions and through military-to-military, not civilian-to-civilian, relations."[67] The Islamic revolution in Iran or the continuing protests in Bahrain serve as a reminder that propping up governments through military support does not guarantee allegiance among their populations. Moreover, racism against Arabs is ever-present in the U.S. and a general climate of war weariness and budget cutting has hit the Congress, bringing into question the ongoing domestic popularity of the Persian Gulf Empire. China, meanwhile, has developed a much wider range of economic ties, expanding on their considerable energy trade. As Jonathan Holslag writes in examining the China-India relationship, "fostering trading states is one thing; creating trading nations is a step further."[68] Due to economic diversification, China is well on their way to moving their relationship with Qatar from trading state to trading nation. As such, China-Qatar relations can potentially be much stronger than the U.S.-Qatar relations, intrinsically rooted to social-economic interests rather than state-security interests.

Third, it appears that for the International Oil Companies operating in Qatar, profit comes before politics. Halliburton works in China, CNOOC tried to buy Unocal, and if there is money to be made there is a good chance oil executives will find a common language. In March 2013 ExxonMobil and the Chinese National Petroleum Corporation sponsored the International Petroleum Technology Conference in Beijing, and representatives from Qatar and the rest of the Persian Gulf filled the exhibition hall. U.S.-based companies like Exxon-Mobil and Occidental Petroleum are still dominant in the Qatari petroleum sector, but European companies like Shell, Total, and Wintershall play an important role, as do Asian ventures such as Mitsui and the Chinese companies discussed above. However, when the financial side of oil enters the discussion, the apolitical nature of the business becomes murkier. Since the early 1970s the rise of the petrodollar has allowed the U.S. to maintain the dollar as the world reserve currency, what Charles DeGaulle once referred to as Washington's "exorbitant privilege." While oil companies may be able to easily adapt to the financial rise of China, U.S. economic officials are certainly noticing that the oil-backing of the dollar is beginning to peel away. Unless U.S. consumers start to divert more of their money into savings, the Treasury Department will have to find new ways of maintaining deficit spending as Beijing increasingly begins using its own currency for international trade. Devaluation and a loss of preeminence is a question of when, not if. Of course China, with massive dollar holdings itself, has a large stake in ensuring that the decline of the dollar happens as a gradual process.

Finally, it is not necessarily the case that the new world will be a better one. Where the United States most recent foray into the Persian Gulf was built atop Iraqi graveyards, the emerging Pax-Sinica is being built on the backs of toiling workers. A further globalization of this supply chain offers little opportunity for diversion from such a path. Qatar's labor situation is even more deplorable, with hundreds of thousands of workers from south Asia being held in virtual slavery. Meanwhile, the growing financialization of China's foreign policy, if U.S. history is any indicator, can only lead to increasing cycles of boom and bust, speculation, usury, and inequality. Replacing the petrodollar with the petroyuan is by no means a guarantee of monetary stability. But most ominously, the U.S. response to this new reality has been to lash out into ever more wars and military operations in the region, with the current campaign in Iraq but the latest example. Perhaps unable to divert the bureaucratic inertia of the empire, or perhaps still consciously hoping that militarization will create control, Washington does not seem to grasp the new disconnect between blood and oil. ■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