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winners & losers

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■ ***Photography***
Contrasto - Corbis - Reuters,
Eni's Archive, Getty Images,
Sie Masterfile

■ ***Editing and production***
Agi, via Ostiense, 72 - 00154 Roma
tel. +39 06 51996254 -385
fax + 39 06 51996286
e-mail: info@abo.net
www.abo.net
@AboutOil
www.facebook.com/ABOaboutoil

■ ***Design***
Cynthia Sgarallino
■ ***Graphic consultant***
Sabrina Mossetto
■ ***Graphics and layout***
Imprinting www.imprintingweb.com

■ ***Printer***
In Italy: Elcograf S.p.A.
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■ ***Translated by:*** RR Donnelley

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Emma Marcegaglia
Chief executive officer:
Claudio Descalzi
Board of Directors:
Andrea Gemma, Pietro Angelo
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Piazzale Enrico Mattei, 1
00144 Roma – www.eni.com

Winners and losers

by GIANNI DI GIOVANNI

The sharp downturn in oil prices in recent months has upended the worlds of energy and finance. This in turn has produced considerable debate globally about how this event, and its many knock-on effects, may affect the world in the months and years to come. Oil could not ignore the earthquake underway. This issue of the magazine is therefore devoted to analyzing the causes of this dramatic change as well as its effects for both individual states and the wider global economic and political order. "Winners and losers" is the title we have given our analysis, reflecting our attempt to identify who has been hurt by, and who had benefited from, this dramatic shift. Of course, this is a journalistic title, which is inevitably rather programatic. The considerations of leading international experts involved in the wide-ranging discussion we present remind us well of how, in such a well-structured energy market and within such an interconnected international order, it is difficult to discern clearly who stands to gain or to lose, particularly when the short-term victor can, as a result of bad luck or bad decisions, turn into the long-term loser. Moisés Naím explains this well by illustrating not only the immediate effects of the price collapse, but also those of the "second order." Low oil prices do not necessarily mean only benefits for importing countries, obvious and immediate though those benefits may be. As an example, consider the paradox of the European Union as described by Paul Betts in the pages that follow; its energy savings could threaten to trigger further deflationary processes. The complicated effects of this sudden change in the energy sector for both "winning" and for "losing" countries have an impact on growth estimates, budgets and investments, providing a considerable challenge for governments. Experts Edward Morse, Guido Gentili, Davide Tabarelli and Roberto Bocca demonstrate this very well in the economic realm; each analyzes a specific sector or geographic area. They show leaders struggling to contend with highly complex scenarios and facing a daunting array of unsettling unknowns. But there are elements of confidence to be found here as well: the interviews with which we open this issue of Oil bring comforting views. That of Morocco's Minister of Energy, Abdelkader Amara, for example, presents the positive story of a key player that has developed a highly efficient energy policy based on alternative sources – solar and wind – particularly suitable for its territory. Italy's Deputy Foreign Minister Lapo Pistelli, and the Director General for Energy of the European Commission, Dominique Ristori, on the other hand, focus on the prospects for a strong revival of European initiative: towards Africa, with Italy leading, and towards energy, where we might finally see the development of a common policy among the twenty-eight Member States. Such an outcome would surely place the European Union among the "winners" of the crisis. ■

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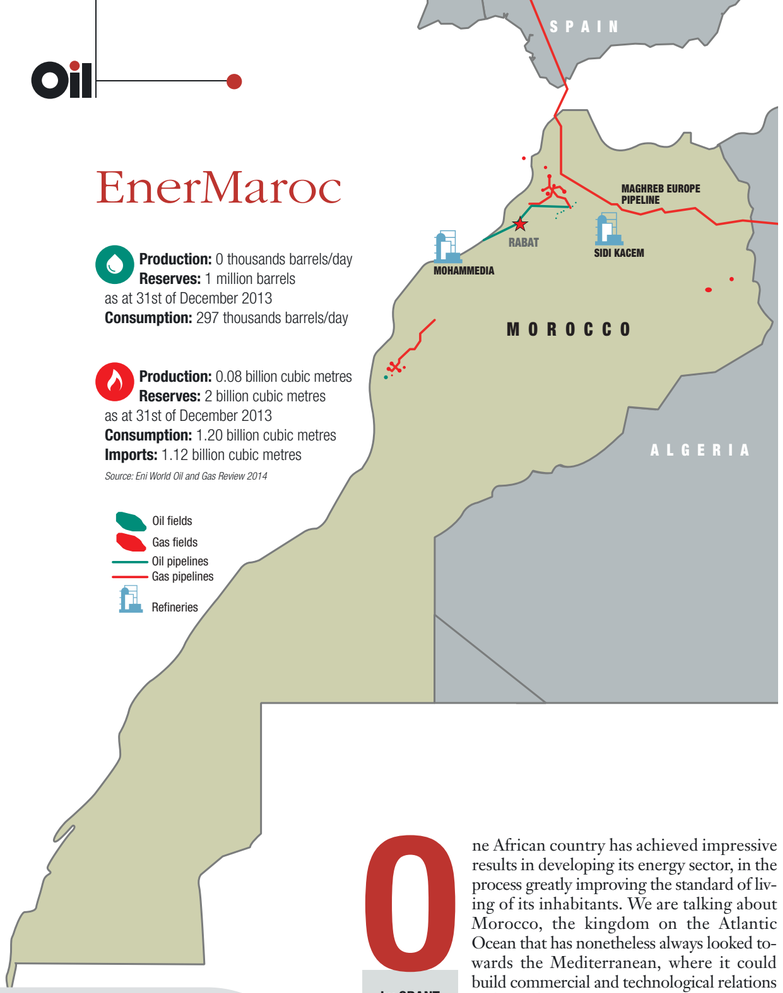
Exclusive/Abdelkader Amara, Minister of Energy of the Kingdom of Morocco

Rabat's energy turning point

Morocco has provided a model for alternative energy development for Africa and the Middle East: it has produced 1,400MW more electricity in the last 4 years and plans to achieve 42 percent of installed capacity



EnerMaroc

Production: 0 thousands barrels/day
Reserves: 1 million barrels
as at 31st of December 2013
Consumption: 297 thousands barrels/day

Production: 0.08 billion cubic metres
Reserves: 2 billion cubic metres
as at 31st of December 2013
Consumption: 1.20 billion cubic metres
Imports: 1.12 billion cubic metres

Source: Eni World Oil and Gas Review 2014

ABDELKADER AMARA was appointed Minister of Energy, Mines, Water and the Environment of the Kingdom Morocco on October 3, 2013. He is a professor at the Institute of Agriculture and Veterinary Medicine Hassan II in Rabat since 1986. For a decade, he was scientific advisor of the World Organization of Sciences in Sweden. As Member of the General Secretariat of the Justice and Development Party (PJD) since 1997, Amara was also president of the Committee of Productive Sectors within the Assembly of Representatives.

One African country has achieved impressive results in developing its energy sector, in the process greatly improving the standard of living of its inhabitants. We are talking about Morocco, the kingdom on the Atlantic Ocean that has nonetheless always looked towards the Mediterranean, where it could build commercial and technological relations with nearby countries, especially in Europe. Having made the development of renewable energy sources a priority, Morocco now turns its attention to its hydrocarbons sector, including several discoveries of gas and oil fields off Ifni. Abdelkader Amara, the kingdom's Minister of Energy, Mining, Water and the Environment, explains the country's energy strategy.

by GRANT SUMMER

Minister, we know that for many years Morocco has undertaken a program to expand its electricity production capacity, which has allowed it to satisfy all the requirements of the population. Can you explain how that was done and what energy choices were involved?

From the beginning of the last decade, the increase in domestic consumption of primary energy exceeded five percent and the figure for electricity demand rose by 7 percent, by virtue of the economic upturn that began in our country around that time. In order to deal with this increased demand and to strengthen electricity production structures, Morocco adopted an ambitious energy strategy based on a diversified and optimized mix of reliable and competitive technological choices, with the development of renewable energy as one of the most important foci. This strategy was translated into precise targets and quantified and converted into clear road maps with short-, medium- or long-term deadlines. In the short term, the "Plan National d'Actions Prioritaires" (PNAP, National Plan of Priority Actions), implemented as part of this energy plan, was executed between 2009 and 2012 and produced an additional 1,400 MW of power that allowed supply to meet demand. In compliance with the initial planning, this program allowed the accumulated delay in terms of investments in electrical infrastructures to be recovered, and the country went from a negative reserve margin to one that was positive by 13 percent. In recent years, the production system has been strengthened by two units, with a total capacity of 700 MW running on coal at Jorf Lasfar, and four wind farms with a total capacity of 500 MW, which brought the total installed power capacity at the end of 2014 to over 7,800 MW. This first phase of our strategy has also allowed us to adopt a clear, shared vision based on medium- and long-term programs and reforms.

Morocco plans to increase the percentage of energy produced from renewable sources between now and 2020. How do you hope to achieve this?

The second phase of the energy strategy, from 2013 to 2020, will allow the acceleration of the development of renewable energy and the adoption of an energy mix based on economically sound technologies. Therefore, the share of renewable energy will increase the installed power capacity in 2020 to 42 percent, with 2,000 MW of solar energy, 2,000 MW of wind power and 2,000 MW of hydraulic energy. The implementation process of the two wind and solar energy programs is already underway. The Moroccan Wind Power Project is currently making good progress: all the planned units have already been built, introduced or are in progress. The anticipated or actual production costs make this chain extremely competitive compared with power plants running on fossil fuels.
In addition to the 750 MW already operational, approximately 670 MW are currently under construction and technical bids have already been received to build another 850 MW under the scope of private electricity production. The integrated Moroccan Project for Solar Energy, which aims to develop our solar potential, has shown promise: both the steps taken by the Moroccan Agency for Solar Energy related to development and the interest shown in this program throughout the world (specifically in the first part of the Ouarzazate power plant involving 160 MW), by several internationally renowned developers and international financial institutions bode well.
For the next Concentrated Solar Power Plants, NOOR 2 and 3, with a capacity of 350 MW, the international selection process of developers has made it possible to choose Le Consortium for the development of these two projects. The PV phase, NOOR 4, with a capacity of 50 MW, will also be developed further thanks to shorter implementation times. For the hydroelectric power plant program, the current installed power capacity is 1,770 MW, and the capacity under development is an additional 650 MW, of which 350 MW is reserved for the development of "STEP" (Energy transfer pumping stations).

With regard to the hydrocarbon sector, there has been talk of the discovery of new gas and oil fields, particularly off the coasts. Can you confirm this? Which fields are involved?

At present, it's too early to talk about actual discoveries. There were announcements last October by GENEL, SAN LEON and SERICA regarding the SM1 drilling site located 59 km from the town of Ifni, which found traces of oil. These sites are currently being investigated and analyzed in order to determine the nature of the oil found and to evaluate the petrophysical properties of the rocks so as to decide on the actual potential of the area involved. In this regard, it is worth pointing out that research into hydrocarbons is currently experiencing a dynamic recovery through the use of new prospecting techniques, specifically 3D seismic acquisition, horizontal and multi-directional drilling and feasibility studies of basins, such as the Tangier-Tarfaya offshore Atlantic area and the onshore areas of Gharb and Essaouira-Haha. This return of interest can also be seen in the constant increase in investments made, to the tune of 1 billion dirham in 2012, reaching 2.7 billion dirham in 2013 and 5 billion dirham in 2014. Currently, the results of the work carried out on research into hydrocarbons have involved modest discoveries of onshore gas, essentially in the area of Gharb, by the companies Circle Oil and Gulfsands. It goes without saying that Morocco has important sedimentary basins, with geology similar to that of other countries where oil has been discovered and exploited. The results obtained so far and the data available demonstrate a favorable potential for the accumulation of hydrocarbons underground.

Is Morocco planning to undertake energy projects in conjunction with other North African countries?

The countries in North Africa work together in a way that is both complementary and interdependent, which guarantees the security of energy procurement and makes energy transition one of the foundations of new growth. The construction of the new infrastructure necessary for energy procurement requires the mobilization of all the technical, economic and financial expertise of North African countries. For example, the development and consolidation of existing energy connections is no longer a choice but a necessity that allows the security of procurement for the region to be strengthened. The electrical systems of the countries in the region must take into account the increase in terms of renewable energy power.

Do you believe that Morocco could export electricity and energy sources to those African countries in which limited access to electricity continues to be a barrier to industrial and civil development?

Regarding electricity in particular, the first technical studies into the connection of Nouadhibou, Mauritania to Dakhla, Morocco have been launched. In addition, consolidation projects are already under way in southern Morocco (for example, the 400 KV Agadir-Laâyoune line, which will come into service in 2015, and the connection of the town of Dakhla to the national electric grid through a 225 KV line scheduled for 2018). These connections will promote economic exchanges of electricity between the two electricity systems and will form the basis of future energy cooperation between Morocco and Sub-Saharan countries.

Morocco has always paid special attention to the creation of new infrastructure, particularly with a view to attracting new and large foreign investments. What stage has this project reached and what has been the impact of the new funds received by the country?

The new sites launched in Morocco to develop electrical, oil and gas infrastructure constitute real opportunities for investment, with figures estimated at almost $36 billion between 2014 and 2025. Due to the confidence shown in Morocco by banks and other financial backers, it has managed to obtain enormous funding to support the realization of substantial energy projects, particularly in electricity. These projects are still generating considerable interest in international financial partners. By way of example, agreements signed recently will fund the construction of a solar power plant and two thermal power plants over the next five years, including the financing of a coal-fired thermal power plant with a capacity of 1,386 MW at Safi for a total investment of 23 billion dirham. Safi Energy Company, owned by the consortium of GDF SUEZ (France), Nareva (Morocco) and Mitsui (Japan), will be responsible for the construction and management of the plant, which will comprise two thermal units of 693 MW. This will be the second largest coal-fired power plant in Morocco. The second thermal project consists of the construction in Jerada of a coal-fired power plant with a capacity of 318 MW, with an investment of 3 billion dirham. This power plant will be built by the Chinese company SEPCO III (Shandong Electric Power Construction Corporation). With regard to solar energy, there is the second phase of the Ouarzazate solar energy complex, Noor II, with an installed power capacity of 200 MW, and Noor III, with an installed power capacity of 150 MW.

A GREENER FUTURE

BY 2020

The share of the installed capacity of renewable energy in Morocco will rise to **42 percent** of total energy produced, developing:

- **2000 MW**
- **2000 MW**
- **2000 MW**

BY 2025

The country expects to invest **$36 billion** for the development of electrical, oil and gas infrastructure. The main projects concern:

- the **Safi** coal-fired power plant (1,386 MW)
- the **Jerada** coal power plant (318 MW)
- the second phase of the **Ouarzazate** solar energy complex (**350 MW**): **Noor II**, with an installed capacity of 200 MW **Noor III**, with an installed capacity of 150 MW.

ATLANTIC EXPLORATIONS

Since 2012, the country has embarked on an investment plan for exploration activities in the Atlantic, offshore **Tanger-Tarfaya** and in the onshore areas of **Gharb** and **Haha Essaouira**, for an investment which, in 2014, amounted to 8.7 billion dirhams (approximately $910 million), divided as follows:
1 billion dirhams (approximately $105 million) in 2012,
2.7 billion dirhams (approximately $280 million) in 2013,
5 billion dirhams (approximately $525 million) in 2014.

An International Monetary Fund report stated that the Moroccan economy, like those of other countries that are essentially importers, is currently benefiting from the fall in oil prices on international markets. Is this true?

The fall in oil prices is definitely an opportunity for non-producing countries, like Morocco, to restabilize their macroeconomic equilibrium. Moroccan citizens have also benefited from this situation through a series of reductions in the price of fuel. However, the global energy situation has always featured instability with regard to oil prices and a lack of any clear vision with regard to the future of fuel prices. This situation has made it possible to develop other energy chains, including renewable energy, which has seen considerable development in recent years. Furthermore, according to the experts, renewable energies' share should increase between 2012 and 2040 from 14 to 19 percent with regard to primary energy consumption, and from 21 to 33 percent with regard to global electricity. In spite of the current fall in oil prices, these chains are maintaining their growth rhythm, even for some countries that have fossil fuel energy sources. In my opinion, this fall in prices is only a trend and should not, in any case, influence the fundamentals of energy policies. In fact, it should be understood as an economic trend because energy policies are devised on the basis of foundations that aim to guarantee energy procurement in the long term.

INCENTIVES TO DEVELOPMENT

Italy earmarks 40% of its development aid for Africa, a high contribution relative to what it directs to other regions and countries.

(Data from 2011 to 2012, for 35% of bilateral ODA disbursed. It did not specify the target region)

Source: OECD 2014

Feature/Italy's Deputy Minister of Foreign Affairs, Lapo Pistelli

Italy is the gatew ay of Africa

The African continent, facing water to the south, east and west, naturally looks north to Europe as a partner for shared development and trade. Increasing cooperation will be mutually beneficial

by MARCO MALVESTUTO
(AGENZIA NOVA)

Africa's resources and infrastructure are essential to its development. "Oil, gas, and hydroelectric power, if exploited and used intelligently, can, on the one side, become the key elements for sub-regional integration between countries and not elements of conflict," argues Italy's Deputy Foreign Minister, Lapo Pistelli. "On the other side, they can make it possible to think about a widespread and differentiated development that does not transform the economies with the richest resources into rent-seeking economies." Pistelli sees considerable potential for a mutually-beneficial development of the relationship between Italy and Africa through investments and partnerships.

In recent years, Africa has had better relations with various governments, western and not, reflecting a renewed interest in this continent. What is Italy's approach to Africa?

In the last 20 years, Africa has suffered from a schizophrenic approach by its partners: one day it was a continent in free-fall and without hope, the next day it was an Eldorado of opportunities. Only the United States, China and France have maintained a consistent approach towards Africa. Now that our country is finally forging closer links, we should be aware, first of all, of our limits—a small public portfolio, a diplomatic network that is too limited for a vast continent, and a shallow knowledge of Africa, based on many general statements and some prejudices. But we should be aware too of our strong points, of which I should like to mention the wide-spread good will that Italy enjoys, our people, our culture, in short the perception that we can be a true partner, without any other agendas, a partner that believes in joint development and offers help without being patronizing. Our interest stems from common sense analysis: Africa still has less than 3 percent of the world's riches, almost nothing, in spite of having extraordinary natural resources. In 30 years, its population will be three times that of Europe, over two billion inhabitants, with an extremely low average age. The continent has water to the south, east and west and Europe to the north. Who should their partner in development be, if not us? The record African presence at Expo 2015 and the growing number of political and economic visits by us to African countries are a testament to a changing perspective on both sides.

A large part of the African continent is going through a phase of rapid and prolonged economic growth in various sectors, which creates significant opportunities for businesses in the region. How important is the role of economic diplomacy in giving this process a further boost?

Six out of the ten fastest growing economies in the next five years will be African. Although they are starting way behind the others, it is a figure that should give food for thought, especially to our businesses. The international promotion of a given country relies on a well-developed toolbox: traditional diplomacy, participation in international security mechanisms, cooperation in development, promotion of language and culture and internationalization of its businesses. The last has been one of the constant missions of our network for over a decade: the Foreign Ministry and the Ministry of Economic Development are constantly involved with larger economies, but they also have a program of scouting missions in less economically developed countries. These are visits of varying importance: sectoral missions, follow-up visits and attending main trade fairs. In the future, we should definitely organize promotion tools and equip this mission with an adequate portfolio, but it is clear that a lot of things are changing. Also, due to low domestic demand, our businesses are virtually forced to look elsewhere. And we need to help them in avoiding mistakes.

According to the IEA "Africa Energy Outlook 2014" report, only 290 million people out of the 915 million inhabitants of Sub-Saharan Africa have access to electricity. In spite of this, in addition to traditional resources like oil and gas, Africa offers enormous potential in the renewable energy sector. For example, in Central Africa, only 10 percent of potential hydroelectric power is →

LAPO PISTELLI

Italy's Deputy Minister of Foreign Affairs and International Cooperation since May 3, 2013, Lapo Pistelli is a Member of the Chamber of Deputies of the Italian Parliament, elected for the Democratic Party, for which he was Head of the Foreign Affairs and International Relations Department until May of 2013. He was a Member of the European Parliament from 2004 to 2008 and was re-elected to the Chamber of Deputies in 2008. During his terms of office in Italy, he was a member of the Constitutional Affairs Committee, the Community Affairs Committee and the Foreign Affairs Committee. Between 2001 and 2004, he was a member of the Italian Parliamentary Delegation at the OECD (Organization for Economic Cooperation and Development in Europe), monitoring elections in democracies in transition.

The agenda for the future

The Post 2015 agenda is a priority document for the future of cooperation in multilateral and bilateral development, started in view of the imminent deadline established for achieving the Millennium Development Goals (2015). The creation of a new framework following 2015 is the prerogative of the Member States of the United Nations and must be based on the affirmation of standards and shared principles. The UN's role in this process is to support Member States in achieving that goal. The post-2015 debate ties in with effort to elaborate the three dimensions of Sustainable Development Goals (economic, social and environmental) that emerged from the Rio+20 Conference.

exploited. How do you think these resources could be exploited to guarantee better development of the continent, while grappling with the high rates of poverty?

The Energy Outlook offers a great deal of food for thought and action. Africa has a whole range of energy resources at its disposal—fossil fuels and renewable energy—oil, gas, biomass, sun, water and wind. It has an immense potential that must be exploited, transformed, connected, distributed, made accessible to the people and spent on the global markets as a driver for the development of the continent. Obviously, not all countries have the same potential in fossil fuels or renewable energy, which is what happens elsewhere too. But it is clear to all—including the African Union —that the use of that potential and continent's infrastructures are two key elements in the development of Africa. Italy has an extraordinary wealth of knowledge and experience, both in the exploitation of all energy sources, and in the construction of infrastructure networks. The African people know this very well, because many of our companies are already very active in these sectors. I should like to add, in just one sentence, that oil, gas, and hydroelectric power, if exploited and used intelligently, can, on the one side, become the key element for sub-regional integration between countries and not an element of conflict (think, for example, of the disputes over the Nile dams) and, on the other side, can make it possible to think about a widespread and differentiated development that does not transform the economies with the richest resources into rent-seeking economies.

As far as cooperation over development in Africa is concerned, you have often spoken about the need to put the policy of aid on a permanent footing with that of subsidized credit and to create a strong link between aid and investment. At what stage are you with this policy, also in the light of the negotiations over the new post-2015 development Agenda?

A modern idea of development should understand trade and investment, in other words, aid, commerce and investment, as continuum aid. The aspiration of every idea of cooperation must be to remove less developed countries from the poverty trap, to steer them towards self-development, which first of all gets them back on their feet and then gets them to see the natural purpose of investments and partnerships. The post-2015 Agenda also recognizes that, while the struggle against extreme poverty and the global commitment to education, health and the enjoyment of rights continues, all of this cannot simply be entrusted to public aid, but must see the private sector and other players increasingly involved. With regard to cooperation too, all the instruments tend to differ according to the needs and conditions of the individual country. Extreme poverty is combated with aid projections and interventions; in less dire circumstances, professional training, the development of a network of small and medium-sized businesses, and material infrastructures can be achieved through programs funded by subsidized credit. Obviously, there are many African countries in which both interventions exist side by side, in the same way as there are many more sophisticated financial instruments currently available. There is a lot more to be said, but this at least gives some idea.

If Africa continues to demonstrate encouraging signs of progress with regard to stability and security, there are still "hot spots" affected by humanitarian conflicts and crises—as in the case of the region of Sahel, South Sudan and the Central African Republic—and the proliferation of jihadist-inspired terrorist groups—as in the case of Boko Haram in Nigeria and Al-Shabaab in Somalia. How is the humanitarian question intertwined with the question of security? Do you believe that the role played by the international community has been good enough with regard to these questions?

Africa throws up many challenges in terms of security and stability, not to mention natural disasters like the outbreak of Ebola. Several countries are involved in complicated electoral processes this year and they must decide whether to allow their presidents to change constitutional rules to seek another term of office. Others are concentrating on difficult national transition or reconciliation processes. The greatest risk, however, lies in the potential fusing of the Al Baghdadi "Caliphate" with the many jihadist and terrorist organizations operating from the Atlantic Ocean to the Red Sea, across 5000 kilometers of the Sahel as far as the Horn of Africa. An Islamic stranglehold that is attacking the continent of Africa from the Sahel, Sinai and the Horn, radicalizing Muslim countries, intensifying the sectarian conflict in countries with several religions, and harnessing the enormous social and economic rifts that exist, could worryingly escalate the challenge that we are dealing with in Syria, in Iraq and in the Middle East. From the point of view of cooperation, the increase in humanitarian emergencies is taking away resources and attention from traditional, sustainable development programs. As often happens in life, urgent matters are replacing important ones.

Interview/Dominique Ristori, Director-General for Energy of the European Commission

Toward a European Energy Union

"The European Union and its Member States face an increasingly complex energy landscape, one that will require a more united European approach. Toward this goal, the European Commission (EC) is currently working on the concept of the European Energy Union."

by SIMON TOMPKINS

Dominique Ristori, Director-General for Energy of the EC, talks about Europe's energy challenges, Euro-Mediterranean relations, the consequences of the Arab Spring and why the crisis in Ukraine should lead to improved energy ties with Africa and spur a more general diversification of Europe's energy sources.

> The Juncker Plan, an ambitious political project based on five pillars, among them Europe's energy security, will support investments for the strengthening of energy infrastructure

Energy corridors represent the sturdiest bridges connecting the northern and southern Mediterranean regions. What is the current situation and what do you think the future will bring?

Europe and North Africa are actually very well connected by gas transport infrastructure. Currently, the construction of new gas pipelines is not in the cards. However, existing gas pipelines running from Algeria to Italy are operating well below their capacity. Therefore, it is necessary to invest in new exploration and production projects. Algeria is currently the third largest supplier of gas to the European Union, and it could have an even more important role given its large quantities of unexploited traditional and non-traditional hydrocarbons. However, in recent years, Algeria has not been very successful at attracting the required investments. One of our priorities in the coming months is to intensify the dialogue with Algeria in order to identify and remove current obstacles and facilitate new investments. For European oil companies, it is fundamental to have a stable and transparent regulatory framework in order to maintain and strengthen activities in the region. The Mediterranean area plays a strategically important role in terms of energy security. The High Level Conference called Building a Euro-Mediterranean Energy Bridge [held in Rome on November 19, 2014, ed.] paved the way to create new momentum in energy cooperation between Europe and the Mediterranean region. On that occasion, we agreed to strengthen the partnership between Europe and the Mediterranean on the basis of three priorities: gas, electricity and renewable energy/energy efficiency. In the coming months, three thematic platforms (one for each priority) will be launched with the involvement of politicians, regulators, transmission system operators and the industry in order to identify actions, measures and concrete solutions. As a result, 2015 should mark a new turning point in energy cooperation between the European Union and partner countries in the southern and eastern Mediterranean.

Some questions have emerged as a result of important natural gas discoveries in the Levantine Basin. How will natural gas shape the geopolitical landscape in the Eastern Mediterranean? To what extent do you think Eastern Mediterranean gas can help to diversify the European Union's supply sources in line with Europe's need to strengthen its energy security?

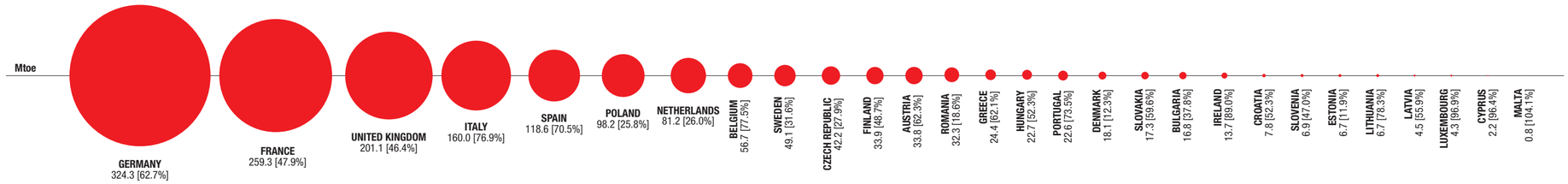
Current and future discoveries in the region will naturally cause a significant shift in the energy scenario, not only in the Eastern Mediterranean but throughout the entire Mediterranean region. These discoveries will -without a doubt- influence the economies of the gas producing countries in the area. They will help them to face energy security problems, strengthen their economies and develop solid links with other countries in the region. However, it is too soon to specifically evaluate the impact that Eastern Mediterranean gas will have on the European market, as this depends on the volume of gas reserves that can potentially be exploited in the entire region. It is not yet clear how much gas can be exported to the European mar- →

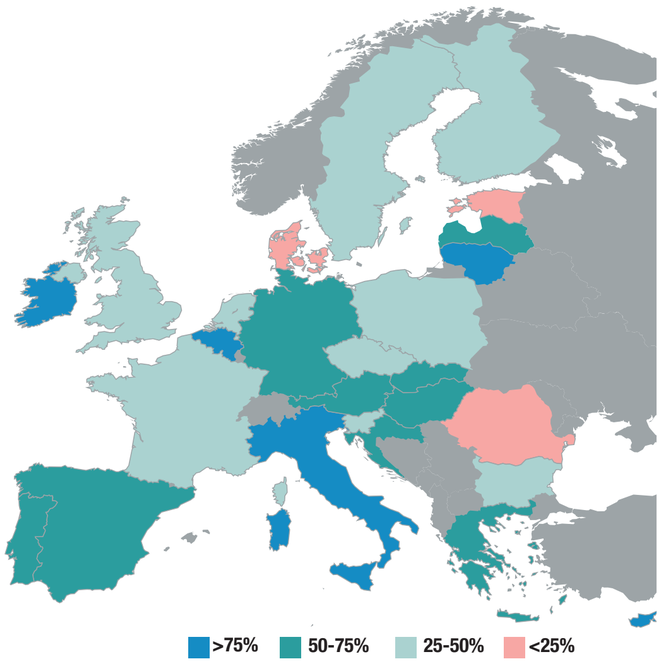
DOMINIQUE RISTORI has worked in the European Commission since 1978 and has held several senior positions. Prior to his current posting as Director General for Energy at the European Commission, he was Director-General of the Commission's Joint Research Centre (JRC) from 2010 to 2013. Between 2006 and 2010, Mr Ristori was Deputy Director General of DG Energy and Transport. From 2000 to 2006, as Director in Charge of General Affairs and Resources at DG Energy and Transport, he was responsible for inter-institutional relations; enlargement and international relations; coordination of energy and transport research; internal market, state aids, infringements and public service obligations; passengers' and users' rights, as well as central management of human and budgetary resources.

ENERGY CONSUMPTION

In 2013, the European Union's gross domestic energy consumption was 1.666 million tons of oil equivalent. Of this amount, 53 percent was imported. The graph provides details for the individual countries of the European Union with the energy consumption figure (in MTOE) and the percentage imported.

Source: Eurostat





ENERGY DEPENDENCE

The European countries that have higher energy dependence (over 75 percent of their own consumption) are Italy, Ireland, Luxemburg, Lithuania and Cyprus. Among the heaviest energy-consuming countries, the least dependent are the United Kingdom and France.

Source: Eurostat

ket. Egyptian liquefied natural gas (LNG) capacities are currently the only existing infrastructure exporting gas from the Eastern Mediterranean. As soon as gas begins being exported from the region, there will be a considerable impact on LNG markets. However, Eastern Mediterranean gas will have to compete with other sources of LNG, particularly those found in East Africa and the United States, for both Asian and European markets. As a result, price and reliability will be decisive factors. The exploration and exploitation of these resources entail some risks. Deep sea exploration can involve technical challenges. However, it is also necessary to consider geopolitical factors, especially potential economic zone border disputes and underlying political conflicts. And, it is just as important to dedicate adequate attention to environmental concerns: the Mediterranean Sea must continue to be well protected. All of these topics will be on the agenda for the Euro-Mediterranean Gas Platform, which was agreed upon at the Rome conference and will be launched next June in Tunis.

Promoting democracy remains a key objective in places such as Libya, a country with historical ties with Europe, especially with regard to energy. How can Europe support democratization and stability in these regions?

Promoting democracy as well as stability throughout the region is certainly a top priority for the European Union. In this respect, Libya is one of our greatest concerns. From an energy standpoint, the current crisis seriously interrupted oil production and exports. This is bad news primarily for Libya, whose public spending relies heavily on oil revenues. The lack of revenues from hydrocarbons has resulted in continued economic deterioration, which has in turn increased social and political instability. This is why the European Union is actively supporting the United Nations' efforts to reach a ceasefire and initiate political dialogue among the main parties. In this extremely difficult environment, the European Union is primarily providing Libya with humanitarian support. The intensification of fighting last summer, followed by the evacuation of most diplomatic missions and international NGOs, are certainly not contributing to the development of energy cooperation between the European Union and Libya at present. However, if the political situation improves considerably, Libya will be a natural candidate for energy dialogues with the European Union.

What geopolitical and energy impact did the Arab Spring have on North Africa and, as a result, on the Mediterranean region?

The events of the Arab Spring over the last three years have naturally affected the oil and gas market by causing some interruptions and impacting oil prices, especially following the 2011 revolution in Libya. However, these effects were rather short-lived and less dramatic than anticipated. The Arab Spring did not influence large oil and gas producers in the Gulf. Markets were able to rebound quite quickly as the supply gap was filled and commercial oil and gas flows were redirected. However, political instability and international sanctions will continue to affect the region's oil and gas market. It is clear that the political impasse in Libya, the ongoing civil war in Syria, the installation of the Islamic State in Iraq and the Levant and current sanctions on Iran have implications for energy security in Europe and neighboring countries. In this environment, it is even more important to step up dialogue and energy cooperation with politically stable oil and gas producing countries in the region, such as Algeria and Egypt.

In general, what should the European energy system's priorities be for 2030?

The European Union and its Member States find themselves facing increasingly complex energy challenges. It is clear that only a more united European approach will ensure that those challenges are effectively and reasonably met. The Ukrainian crisis highlighted the need to bring energy integration and cooperation to the next level within the European Union. In particular, the European Union and the Member States should concentrate on those areas in which closer collaboration between Member States can lead to significant benefits in terms of effectiveness as well as cost optimization, while meeting shared challenges. The Commission is currently working on the concept of the European Energy Union and developing the details of this ambitious political program. The Energy Union will be based on five areas for improvement, which were decided at the EU level.

The first aspect is energy security. As a first step, the Commission needs to work on fully implementing the European Strategy on Energy Security adopted in May. This involves reducing energy dependence on large non-European suppliers. Specifically, we should continue rapidly opening up the Southern Corridor and promoting a new gas hub in the Mediterranean. LNG is expected to become a significant potential source of diversification in the coming years. In order to improve the European Union's energy security, it is also necessary to better coordinate domestic energy policies and ensure that the European Union speaks with one voice in the international arena. Aside from the continuous development of renewable energy sources, we should also focus more on the exploration of native traditional and non-traditional fossil fuel reserves, as well as the potential of nuclear energy as a means of generating energy with low carbon content. Another priority is the construction of a well-functioning and fully integrated internal market. Interconnections are fundamental for an integrated domestic energy market. This is why the implementation and further development of Projects of Common Interest are essential for the European Union.

The development of regional cooperation is also vital, particularly with regard to the coordination of capacities, storage and meeting demand. In this regard, the European Commission will propose a new market design initiative in the first half of 2015. Another important aspect of the Energy Union is the moderation of demand. Improving energy efficiency and promoting innovative and smart technologies, particularly in key industries such as building, transport and manufacturing, will not only increase energy efficiency but will also boost the competitiveness of European industries. The European Council has endorsed an indicative energy efficiency target of at least 27 percent by 2030, which will be reviewed by 2020, keeping in mind a 30 percent target. The Commission will have to redouble its long-term efforts to reach this goal.

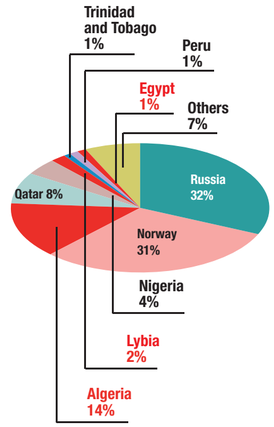
Another core element of the Energy Union program is the decarbonisation of the European Union's energy mix. The European Council has endorsed a binding target to increase the share of renewable energy to at least 27 percent of the European Union's energy consumption by 2030. The European Union will take concrete steps to comply with the 2030 Climate and Energy package, which will include a new governance system aimed at improving the coordination of domestic energy policies. Last but not least, the Energy Union will not come to fruition without robust research and innovation. It is clear that the European Union will need to intensify its efforts in this area in order to be able to develop new energy technologies along the entire supply chain, from generation to transport, to distribution and storage. In this regard, efforts must be particularly focused on accelerating cost reduction and the market's capacity to absorb low-carbon technologies.

According to experts, Europe has insufficient cross-border energy connections. Will EU President Juncker's €315 billion investment plan aimed at encouraging the European economy also support the construction and improvement of energy infrastructure?

The improvement of energy infrastructure and, in particular, cross-border connections is one of the key areas in which investments should be promoted with the support of the European Union investment plan announced by President Juncker. On January 13, the Commission decided to create a special guarantee fund, the European Fund for Strategic Investment, which will help to finance the energy projects Europe needs, namely infrastructure interconnections, the expansion of renewable sources and energy efficiency.

You have stated that the situation in Ukraine was the driver for a new level of cooperation between the European Union and Africa. Can you explain how?

The Ukrainian crisis underscored our dependence on a single gas supplier. It is essential to define a concrete diversification strategy in order to reduce this dependence. As specified in the European Strategy on Energy Security adopted in May and endorsed by the European Council, our priority is to diversify the sources and flows of our natural gas supply. LNG will become a significant potential source of diversification in the coming years. The new LNG supplies coming from North America, Australia and Qatar and new discoveries in East Africa will in all likelihood boost the size and liquidity of the global LNG market. In its recently published Africa Energy Outlook report, the International Energy Agency (IEA) stated that sub-Saharan Africa will play a key role in supplying the gas market over the next thirty years. The countries of sub-Saharan Africa export around half of the natural gas produced by a limited number of countries: Nigeria, Equatorial Guinea, Mozambique and Angola. Driven by these main countries and with new suppliers that will quickly spring up, such as Tanzania, sub-Saharan Africa will produce around 175 billion cubic meters of natural gas per year by 2040. This represents an enormous challenge for sub-Saharan Africa, but LNG imports from a booming African continent could help to substantially diversify the energy mix of the European Union. Therefore, stepping up energy cooperation between the European Union and Africa is of fundamental importance.



THE ROLE OF NORTH AFRICA

North Africa is one of the leading suppliers of natural gas to the European Union. Also in the top ten exporters of natural gas to the EU, are Algeria (in third place), Libya and Egypt.

Source: Eurostat

Lower prices had a direct impact on exporting countries such as Russia and Venezuela. These impacts produced their own "second order" effects that are only just being felt. Many of these effects will be negative, but some will have positive results, as governments take the opportunity to initiate reforms

winners & losers

The consequences of the consequences of low oil prices

by MOISÉS NAÍM

A sudden, significant and prolonged change in the price of oil changes the world. It happened in 1974 and is happening again now. In March of 1974, the price of oil had surged from 3 to 12 dollars per barrel. The new price created new global economic powers: the oil producing countries primarily in the Middle East and North Africa. It also dealt a severe blow to the economies of the United States, Europe, Japan and other oil importers. The oil shock altered the power relations between the main geopolitical players and created new ones. Higher oil prices had many unexpected consequences—from breeding oil wars to contributing to the international spread of Islamic fundamentalism thanks to the funding of newly superrich countries like Saudi Arabia. The world is now discovering that the substantial, sudden and totally unexpected drop in the price of crude oil may be as disruptive as the quadrupling of oil prices that created the oil shock of 1974.

THE OIL SHOCK OF 2015

Some of the world-changing effects of the substantial drop in oil prices that began in the summer of 2014 were immediate and clearly visible. Happy gasoline consumers in the United States and elsewhere are an example of this impact as are worried governments in oil exporting countries faced with the need to cut their public budgets and risk social and political turmoil as a result.

Two illustrative examples of the direct impact of lower prices in oil exporting countries with economies that were already weak and suffered an additional blow by the decline in oil prices are Russia and Venezuela.

Russia's Ruble has suffered a steep devaluation, stock market prices in Moscow have fallen, the Central Bank's reserves are dropping, capital is fleeing the country, export revenues are down and foreign investment has practically halted. Russia's sovereign bonds have been downgraded to junk by credit rating agencies. All of this is, of course, largely caused by the decline in oil revenues (68 percent of Russia's total exports and 50 percent of public budget revenues) and the economic sanctions imposed by the United States and Europe as a result of the Kremlin's behavior with respect to Ukraine. The fear, of course, is that a belligerent Vladimir Putin will stir troubles abroad to distract from the deteriorating economic situation at home.

In Venezuela, the economy was in shambles when oil was at 120 dollars per barrel and is spinning out of control as a result of rampant corruption, woeful management and lower oil prices. Yet, President Nicolas Maduro has repeatedly stressed that the dire situation is caused by an international conspiracy led by the United States and has reacted by ramping up the attacks on his critics and the repression of opposition politicians.

Low oil prices can stir dangerous international conflicts by leaders in need of a distraction from their domestic unrest, while in other countries they can create conditions for needed but long postponed reforms. Sadly, they can also lead governments to become more repressive at home and aggressive abroad.

THE SECOND ORDER IMPACTS

The initial and more direct impacts are themselves having consequences of their own. These second order effects of lower oil prices ("the consequences of the consequences") are only beginning to become apparent. Recent headlines give some clues about the world to come if oil prices remain low for a prolonged period. Chevron cancelled a $10 billion shale gas exploration project in Ukraine. The government in Kiev was counting on that project to help stimulate its troubled economy and, once completed, to lower its dependency on Russian gas. This is just one concrete example of a broader trend: scraping or postponing energy projects that have suddenly become too risky or not economically viable at a lower price level. ExxonMobil announced that it was slashing its capital expenditures by 12 percent this year. And this is an industry-wide trend: According to Goldman Sachs, $1 trillion worth of planned investments in energy projects are now under review or have been cancelled. In the long run, this may mean less production and higher energy prices, but in the short run the sudden disappearance of this enormous investment flow is bound to hurt energy companies and especially their equipment suppliers and the construction and engineering firms that were to execute these projects. It will also hurt the cities and regions where these companies operate – from Texas to Nigeria.

SEIZING THE MOMENT TO CUT OIL SUBSIDIES

Not all the second order consequences of lower oil prices are negative. Take for example this comment included in a report about Malaysia's economy that was recently issued by the International Monetary Fund: *"After raising electricity tariffs in early 2014, the government took advantage of lower energy prices in the second half of 2014 to reduce and ultimately remove remaining gasoline and diesel subsidies. [This] should also help broaden the base of federal revenue system and diversify it away from volatile oil and gas revenues. A strengthening of Malaysia's social safety net is an integral part of the authorities' fiscal strategy. The removal of subsidies freed up resources that can be redirected to better support poorer households through better targeted cash transfers."*

The same happened in India and Morocco. In India, the Modi government cut costly public subsidies of diesel fuel, which had been long known to be harmful but also politically unpopular to shed. Morocco, which was already planning to reform its highly inefficient set of subsidies, got a big help when its reforms were facilitated by the drop in oil prices. Energy subsidies are as common as they are harmful for the economy, for the poor and, of course, for the environment, as they stimulate con- →

sumption and undermine efforts directed at saving energy and using it more efficiently.

According to the World Bank, these subsidies are highly regressive: between 60 and 80 per cent of what governments in the Middle East and North Africa spend to subsidize energy go to benefit the richest 20 percent of the people, with the poor receiving less than 10 percent of these public funds.

Plummeting oil prices are stimulating a wave of reforms aimed at reducing or eliminating government fuel subsidies, which amount to more than $540 billion per year worldwide. *The New York Times* reported that oil producers such as Oman, Kuwait and Abu Dhabi have also started to implement subsidy cuts. The Indonesian government recently abandoned a four-decade-old policy of subsidizing gasoline. Even Venezuela, with the largest gasoline subsidy in the world, is contemplating an increase in domestic fuel prices.

Another potential benefit of lower oil prices is that it could cut the incentives to produce more polluting extra-heavy oil. Some of the largest oil reserves in the world are of this type, more expensive and technically more difficult to develop. Such is the case of the Venezuelan extra-heavy oil reserves of the Orinoco river region. Due to their higher production and upgrading costs, the development of these reserves is likely to be postponed.

The problem of course is that lower oil prices are eroding the economic viability of cleaner energy sources like solar, wind, etc. Optimists hope that lower prices of oil and gas will encourage producers of renewable energy sources to improve their technologies and production methods, making them cheaper and more economically viable. This, in turn, will make renewable energy more commercially attractive once the price of oil rebounds.

LOW OIL AND HIGH FINANCE

Another area where lower prices will have surprising second order consequences is in financial markets.

Lower oil prices can harm the balance sheets of energy companies by driving down the volumes of the proven reserves that are counted as commercially marketable assets by these companies. These reserves in turn are one of the main drivers of the companies' market value. As oil prices drop, the higher production costs of some oil reservoirs will make them commercially unviable, and thus no longer qualifying as proven reserves. Such reservoirs will become a new kind of "stranded assets," a trend already visible in some of the higher-cost oil fields across the planet. "Stranded assets" was a term originally coined to describe the volumes of fossil fuels that will not be used as climate concerns lead governments to limit their use as a source of energy. Lower oil prices can also create a significant inventory of "stranded assets" that will negatively impact the valuations of some of the world's largest corporations.

Changes affecting global finances might also occur due to changes in the investment behavior of sovereign funds. Some of the world's largest sovereign funds are those of oil and gas producing countries. The Norwegian fund, for example owns about 1.3 percent of all global securities. A prolonged depression in oil prices might force Norway to finance its fiscal shortfall with resources taken from its sovereign fund. This would naturally lead to the liquidation of sizable investments and thus exert a downward pressure on global equity markets.

In fact, this $840 billion fund set up an expert group to evaluate if it should stop investing in fossil fuel companies, in anticipation that sizable hydrocarbon assets may lose significant value.

In addition to policy changes in the sovereign funds, many producing countries such as Nigeria, Kuwait, Iran and Kazakhstan, which own oil stabilization funds, have stated their intention to tap into these funds to fill the fiscal gap created by lower petroleum and gas export revenues.

The increasing financial constraints of state-owned oil corporations in producing countries, such as Mexico's PEMEX, Brazil's PETROBRAS, Russia's GAZPROM, Nigeria's NNPC, Argentina's YPF and Venezuela's PDVSA might lead them to offer better conditions and more attractive joint venture deals to private companies and foreign investors.

In the private sector, the upheaval in valuations caused by lower oil prices can lead to a wave of mergers and acquisitions of energy companies. The possibility of some very large consolidation cannot be ruled out-an outcome that can deeply change the structure of the industry.

THE GEOPOLITICAL REPERCUSSIONS

Finally, there are many unexpected geopolitical consequences of lower oil prices.

The relationship between Russia and Europe has been disrupted both by the conflict in Ukraine, which led to sanctions against Russia, and by the lower prices. The cancellation of Gazprom's South Stream pipeline across the Black Sea and Southeastern Europe is just one manifestation of a fluid situation that has surely changed the energy equation there. Also in flux is Russia's relationship with China. Matt Ferchen from Beijing's Carnegie-Tsinghua Center for Global Policy envisions closer economic cooperation between the two large nations: "China's calculations in terms of energy deals hinge on a more advantageous bargaining position over the price of oil…. Russia, now under fire from sanctions and a drop in commodity prices, needs a partner."

In Latin America and the Caribbean, Venezuela's political influence is waning as a result of many factors, paramount among them that the Bolivarian government no longer has the same oil revenues that allowed Hugo Chavez to gain enormous influence by subsidizing oil supplies to friends and denying these supplies to foes. Countries that have been dependent on its largesse will have to look for alternatives, which might require engagement with other political forces in the hemisphere.

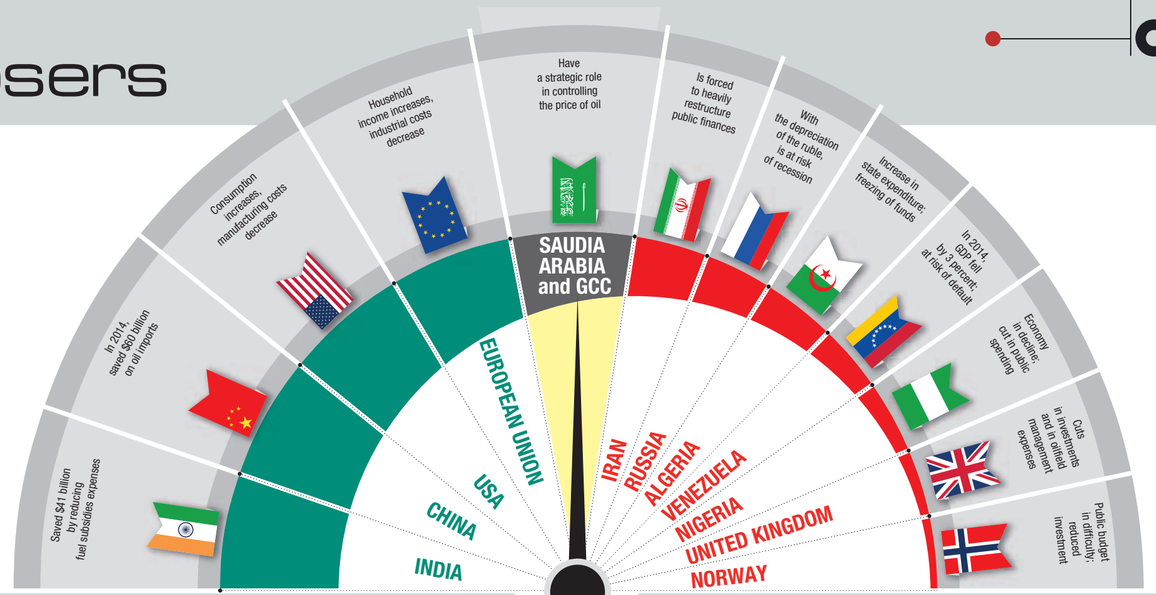
In the recent rapprochement between Cuba and the U.S., the collapsing price of oil also played a role. Venezuela's economic crisis heightened the risk that the island would no longer be able to count on the enormous subsidy it has enjoyed for more than a decade from Venezuela. Cuba's regime was thus eager to find another source of support once Venezuela's economic lifeline ended.

And of course, there is no other region in the world where the second order consequences of plummeting oil prices are more varied, important and unpredictable than in the Middle East.

"ISIS struggles to balance books as finances are squeezed" titled the *Financial Times* last February. The reporter Erika Solomon wrote: "The world's richest jihadi group is not as flush as it once was… It has cut spending on fuel and bread subsidies, while increasingly shaking down locals for cash. Fighters themselves may be feeling the squeeze, too." Analyst Torbjorn Soltvedt estimates the group's daily revenues from oil have dropped to $300,000 per day. Last year, analysts estimated that ISIS made between $1m and $2m a day from oil. "I don't think this will lead to their collapse. But it might accelerate their implosion."

Another important actor for which oil prices matter a lot is Iran. There are many reasons beyond the price of its oil exports that led the regime in Tehran to engage in negotiations about its nuclear program with the United States and six other countries. But surely the fact that Iran is one of the world's hardest hit oil producers must have some influence in the government's stance in the negotiations. All of these effects, both the most direct and immediate and the longer-term and more indirect, hinge on two questions: how low will oil prices drop and how long this period of lower prices last? Estimating the future of oil prices is very risky. It is sobering to note that no expert, corporation, or government had anticipated the revolutionary drop in prices that started in the summer of 2014. But if there is someone whose job provides a perspective worth listening, it is Rex Tillerson, the CEO of ExxonMobil. Here is what he thinks: "The world should 'settle in' for a period of relatively weak oil prices… U.S. shale production is more resilient than many people had expected and demand growth in China and elsewhere has slowed. Those conditions could persist."

Moisés Naím is a distinguished fellow at the Carnegie Endowment for International Peace and an internationally syndicated columnist. He is the chief international columnist for *El País* and *La Repubblica*, and a contributing editor to *The Atlantic*. His most recent book is "The End of Power".



The Big players

Iran, Russia, Nigeria, Norway, and the United Kingdom have in balance been hurt by the decline in oil prices, while the European Union, the United States, and China and India (the largest importers in the world) have benefited. Saudi Arabia, always a powerful player, has adjusted its policies to prevent the emergence of competitors

by FABIO SQUILLANTE

It is a common belief that the sharp drop in oil prices was triggered by **Saudi Arabia** and its partners in the **Gulf Cooperation Council**. Indeed, Riyadh has traditionally played a pivotal role within OPEC: it has shown many times that it is capable of affecting the organization's decisions. Many have claimed that the Saudi decision to cut their official selling price was based on the country's desire to retain its key role within the hydrocarbons market, which has been under threat by the rising U.S. shale oil and gas industry. However, the truth is that this industry is able to turn profits even with the price per barrel fixed at $40, and its performance could improve even more in the not so distant future. Besides, the fact that the United States has gained energy independence does not lessen the strategic importance of Gulf oil: many countries continue to depend on supplies from this region, including some of primary importance such as China. Therefore, there must be other reasons for Saudi Arabia's decision to provoke a collapse in oil prices in the span of only a few weeks.

Control over the largest oil reserves in the world has provided Riyadh with significant financial power, which the royal family has used for some time to maintain and boost the country's influence throughout the Greater Middle East. Like all regional powers, Saudi Arabia has a strategic interest in preventing the emergence of competitors within its sphere of influence. Excluding Israel, for obvious reasons, the countries that could challenge Riyadh for its supremacy over the Middle Eastern Muslim world are Turkey and Iran. In addition, Iran is the center of Shia Islam, which has always been at odds with the monarchy that rules over the sacred places where Muhammad lived and preached. Saudi Arabia is home to significant Shia minorities concentrated in coastal regions, which also have the greatest abundance of oil.

It is clear that the Saudis will do anything in their power to suppress Iran's prestige and influence, and the collapse in oil prices accords with this effort. American President Obama is determined to reach an agreement that puts the Iranian military nuclear program to an end, while still allowing Tehran to use nuclear energy for civilian purposes. Such an agreement would return Iran to the concert of nations, increasing its power in the Middle East and counterbalancing the influence of Saudi Arabia and Turkey. Therefore, it is no coincidence that the slashing of prices per barrel affects first and foremost Iran; Russia, which supports Tehran in nuclear talks; Algeria, Russia's historical partner; and Venezuela, which has been one of the closest countries to Iran for years. There is only one country outside this group that is also severely impacted by the consequences of the Saudi policy: Nigeria, which also bases a large part of its national budget on oil exploitation. As for the Gulf kingdoms, they too are seeing a drastic reduction in revenues, but low extraction costs continue to guarantee significant profits. In addition, with their small populations, their social costs remain low. However, the drop in prices benefits large oil importers such as China, India and Europe, as well as the United States, which is also one of the world's largest producers of hydrocarbons.

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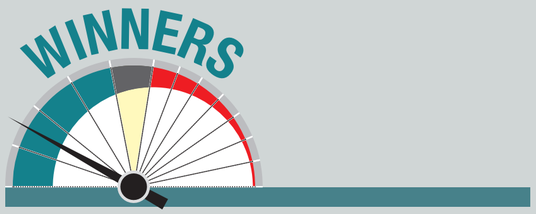


European Union

In 2013, energy consumption in Europe returned to 1990 levels and energy imports met just 53 percent of demand. Amongst the five largest European energy consumers, those least dependent on imports are the United Kingdom, (46.4 percent) and France (47.9 percent); on the other hand, Germany (62.7 percent), Spain (70.5 percent) and especially Italy (76.9 percent) are highly dependent on imports. The current uncertainty as to whether oil prices will continue to fall is frustrating the work of E.U. officials charged with drawing up the project for the creation of an Energy Union. However, for European citizens, a lower price at the pump is good news, especially in peripheral euro zone countries where it is alleviating the economic deterioration triggered by the crisis. The decrease in fuel costs results in higher disposable income, and therefore household consumption. At the same time, it reduces the cost of industrial production and goods transportation, benefitting the economy overall. The quantitative easing announced by the European Central Bank to increase the money supply has combined with the reduction in oil prices to further devaluate the euro. And a weak euro favors exports: an important driver for countries that rely more heavily on exports, such as Italy. Therefore, this scenario has sparked new hope for a less anemic recovery of Europe's struggling economies.

United States

The United States is simultaneously the largest oil producer, importer and consumer in the world. As a result, lower crude oil prices have a complex impact on its economy. According to analysts from Goldman Sachs, the drop in prices should help to increase America's GDP by just 0.1 percent in 2015. However, this increase is expected to be offset by slower global growth and weaker stock markets. It also must be taken into consideration that, with prices hovering at around $50 dollars, only part of the country's bituminous shale oil reserves can be exploited profitably. However, this does not mean that the flow of shale oil into the market will decline in the short term. Nonetheless, the effects can already be perceived. The situation is especially impacting the small and medium sized companies. The number of wells in operation has dropped to 1,676, the lowest level since 2010. According to the rating agency Standard & Poor's, two-thirds of U.S. extraction companies have a high risk of insolvency, and their debt has been lowered to junk status. Rather less is the impact on large companies. As a general effect on the system, the Energy Information Administration contends that in 2015 there will be a 20 percent decline in oil imports, which will reach their lowest levels since 1968. And low-cost oil has caused a sharp decrease in fuel costs, reducing business production costs and bolstering household consumption.

India

Like China, India is among the big winners from the reduction in oil prices. Crude oil represents around one-third of the value of imports, while the country boasts a wide variety of exports, from food products to software. Similar to the situation in China, the cost component of the trade balance is declining due to lower energy expenses, while revenue remains stable because the prices of goods sold abroad have not decreased. Inflation has dropped from 10 percent in early 2013 to 6.5 percent: this should favor a reduction in interest rates, which will benefit investment. Lower-cost oil has also helped to cut foreign debt, which is now at 4.5 percent of GDP. For a country like India, home to almost one-third of the global population, much of which works in agriculture and lives on less than $1 per day, a significant aspect is the reduction in expenditure for subsidies on fuel and fertilizers used on crops: in the fiscal year ending in March 2015, the saving has been calculated at $41 billion, equal to 14 percent of public spending and 2.5 percent of GDP. The government controls the price of diesel used in agriculture and compensates producers for losses generated by the "political" cost. Now, for the first time in years, distributors are able to profit regardless of state subsidies. Prime Minister Narendra Modi has already announced his intention to deregulate diesel prices and put an end to the subsidies.

China

China is the world's second-largest oil importer on an annual basis, and it is competing for first place with the United States. Despite the recent slowdown in growth in the country's GDP, involves a growing energy demand. The Chinese government recently confirmed that oil imports will cover 75 percent of energy consumption by 2030. It also forecast a 60 percent increase in total demand compared to 2013. This makes the country of the dragon one of the greatest beneficiaries of declining oil prices. According to data from 2013, each reduction of $1 in the price of a barrel translates into annual savings of $2.1 billion for Beijing. In 2014, that meant savings of around $60 billion, or 3 percent of total imports. To reduce energy bills, China is entering into agreements with several foreign companies for the exploration of its own resources. But these are medium/long-term plans. According to observers, in the short term, decreasing oil prices will substantially improve Beijing's trade balance, since China mostly exports manufactured goods, the prices of which have not declined. The price reduction will also enable China to move forward with environmental recovery plans to alleviate the problem of air pollution that afflicts the larger cities.

United Kingdom

With Brent prices at approximately $57 per barrel, oil fields designed to be profitable when prices are around $90 are becoming unsustainable. This is especially true considering that a good deal of extraction costs are guaranteed by loans that in some cases reach 90 percent of the total cost. This is the case of the U.K. giant BP, which, due to difficulties in exploiting offshore fields in the North Sea, announced a plan to reduce spending by 10 percent, which also involves cutting thousands of jobs worldwide. The Anglo-Dutch Shell has announced similar cuts. Dropping prices have exacerbated existing problems linked to high management costs in British offshore fields. This has even given rise to the idea of suspending operations, an option considered unthinkable until now, since 800 thousand barrels are extracted from North Sea facilities every day. For London, which has long considered the oil industry to be its "cash cow" due to heavy taxation, the problem is no small matter. The possibility of getting around the issue by relying on shale oil remains a dream. Along with Poland, the U.K. is the only E.U. country that considers shale oil extraction to be feasible. However, shale oil exploitation would be uneconomical, as well as opposed by local populations. The news is not all bad: dropping oil prices reduced the inflation rate to a fifteen-year low of 0.5 percent in December.

Iran

The country of the ayatollahs is among the most highly impacted by reduced oil prices. Forty-five percent of its revenues depend on the sale of hydrocarbons. The state budget was developed based on a price of $108 per barrel; as of this writing, crude oil is sold at almost half that amount. The appropriation law for the next fiscal year, beginning on March 20, was based on an oil price of $72. Iran is therefore forced to review its calculations, taking into account a price of around $40 per barrel. Such an adjustment requires a severe restructuring of public finances, which transition from 45 percent dependence on crude oil to a mere 31.5 percent. Vice President Jahangiri has defined dropping oil prices as a "political conspiracy," but he has also stated that even with prices at $40 per barrel, Iran will "continue to do well." From 3.58 million barrels per day in 2011, Iranian production has dropped to the current 2.77 million, with revenues declining from 50 percent of exports in 2013 to 33 in 2014. A long-term continuation of low oil prices could force Iran to make new budget cuts, negatively impacting an already difficult economic and financial situation. In December, the government decided to offer young people the possibility of "buying" exemption from military service: aside from generating new revenues, this measure will also reduce the cost of the armed forces. This is a tough decision for a country that feels surrounded.

Russia

Russia is suffering from dropping oil prices, which are complicating an already fragile economic environment caused by sanctions imposed as a result of the Ukrainian crisis and of the halving of the ruble compared to the U.S. dollar. These factors have triggered a vicious cycle that should push the country into recession this year for the first time in six years. The World Bank has generated three scenarios: the most likely ($78 per barrel in 2015, $80 the next year) will cause Russian GDP to contract by 0.7 percent this year and grow again by 0.3 percentage points in 2016. Birgit Hansl, the World Bank's lead economist for the Russian Federation, explained that in this case there would be a sustained drop in investments due to the unstable environment, limited access to international financial markets and a decline in domestic demand. "For companies in the natural resource sector," Hansl has stated, "lower oil prices are expected to negatively affect investment decisions." In the worst possible scenario, oil prices will fluctuate between $70 dollars per barrel in 2015 and $72 the next year. In that case, the Russian economy would contract by 1.5 percentage points in 2015 and improve by 0.3 percent the following year. However, if the price per barrel rises to an average of $85 in 2015, Moscow could avoid a recession and grow by 0.5 percent next year. In any event, Russian energy companies should be able to withstand collapsing oil prices. Based on stress tests conducted by the Fitch rating agency, even with average oil prices at $55 per barrel and an exchange rate of $1 to 60 rubles, companies' revenues should decrease by just 23 percent. This is due to three factors: a progressive tax system that adjusts to oil market trends; a flexible exchange rate, which enables the ruble to depreciate in response to falling oil prices; and the fact that gas prices, calculated in rubles, decrease more slowly than oil prices if the depreciation of the ruble does not exceed the drop in oil prices. However, these calculations do not take into account the possible deterioration of the civil war in Ukraine; it could have serious consequences for gas exports and for the Russian economy overall.

Algeria

The decline raises concerns. Prime Minister Abdelmalek Sellal announced a halt in "non-urgent" investment projects in 2015-2019, such as planned railway and urban transport expansions. The Ministry of Foreign Affairs has decided to reduce aid to African countries like Mauritania, Niger, Mali and Burkina Faso, as well as to independent groups such as the Polisario Front. According to Finance Minister Mohamed Djellab, "sliding oil prices will increase government spending by 15 percent." The Algerian Research Center in Applied Economics for Development has calculated that the country's foreign currency reserves and development policies should help it withstand falling prices. In fact, the government has decided to use the country's monetary reserves (around $59 billion) to make up for the budget deficit, which exceeded $46 billion in 2014. Algeria's trade surplus dropped by 53.5 percent in 2014 compared to the previous year due to increased imports and declining energy profits caused by falling oil prices. Oil and gas exports, which account for 95.94 percent of all sales abroad, decreased by 4.5 percent the year before. Annual revenues of the state oil company Sonatrach decreased to $60 billion in 2014 from $63 billion the previous year and $74 billion in 2012.

Norway

The situation is different in Norway, where, due to its size, domestic energy demand is lower than in the United Kingdom, making it the third largest oil exporter in the world after Saudi Arabia and Russia. North Sea oil accounts for 50 percent of Norway's exports and 22 percent of its GDP. The price drop could have serious consequences for the country's budget. The oil company Statoil, 67 percent of which is owned by the government, produces 70 percent of Norwegian oil and gas. It has already announced job cuts totaling 1,900 and an 8 percent reduction in investments until 2016. It has also disposed of $22 billion in assets. However, according to experts, Norwegian production should not decrease until 2025, thanks to the recent discovery of oil fields near the sea border with Russia, the most important in decades. Nonetheless, estimates indicate that the Norwegian oil industry will be able to remain competitive only if prices do not drop below $43 per barrel.

Nigeria

Falling oil prices are also regarded with great apprehension by the government of Nigeria, a member of OPEC and the eighth largest exporter worldwide. According to the Nigerian Bureau of Statistics, the country's economy should contract by 1.2 percent in 2015, while the Economist Intelligence Unit expects crude oil export revenues of no more than $67 billion this year, down 18 percent from last year. Nigeria is the largest economy and the largest oil exporter in Africa. However, its dependence on crude oil - which accounts for around 90 percent of exports and provides two-thirds of state revenues - makes it extremely vulnerable to price fluctuations. According to international experts, to cover current spending in the state budget, crude oil needs to reach around $120 per barrel: about double current crude oil prices. Therefore, in November the government was forced to cut spending by 4,300 billion naira (roughly $23 billion), while the Central Bank devalued the currency by 8 percent in an attempt to halt the decline in foreign currency reserves. Adopted on an emergency basis, these measures could also influence the imminent presidential and national assembly elections.

Venezuela

For Venezuela, the decline is a problem of the utmost importance. Indeed, 95 percent of exports depend on crude oil and its derivatives, while the extraction and sale of black gold accounts for 65 percent of state revenues. The country is OPEC's fifth exporter and has the largest oil reserves on the planet. With inflation close to 65 percent as of the end of 2014 and foreign debt on the rise, now it is on the brink of bankruptcy. To even out the playing field, it would need Brent prices to average $120 per barrel. According to a study by Moody's rating agency, Caracas will risk default if oil prices stabilize at around $60 per barrel. For weeks, analysts have placed their bets on a similar outcome, while President Maduro has denounced financial measures cutting off the country from international credit. Maduro, who has invested a good deal of oil revenues in welfare programs, has already approved a steep $20 billion reduction in state spending, but according to rating agencies this cut is not enough to avoid bankruptcy. Venezuela's GDP fell by 3 percent in 2014, and from now until the end of 2017, the country will need to pay $10 billion to bondholders. The government hoped to raise funds from the sale of Citgo, the company that the state oil company PDVSA controls in the U.S. However, the transaction was not successful, and as a result, the country's situation appears to be increasingly challenging. ■

Saudi Arabia/Sadad Ibrahim Al-Husseini, oil industry analyst

The great unknown

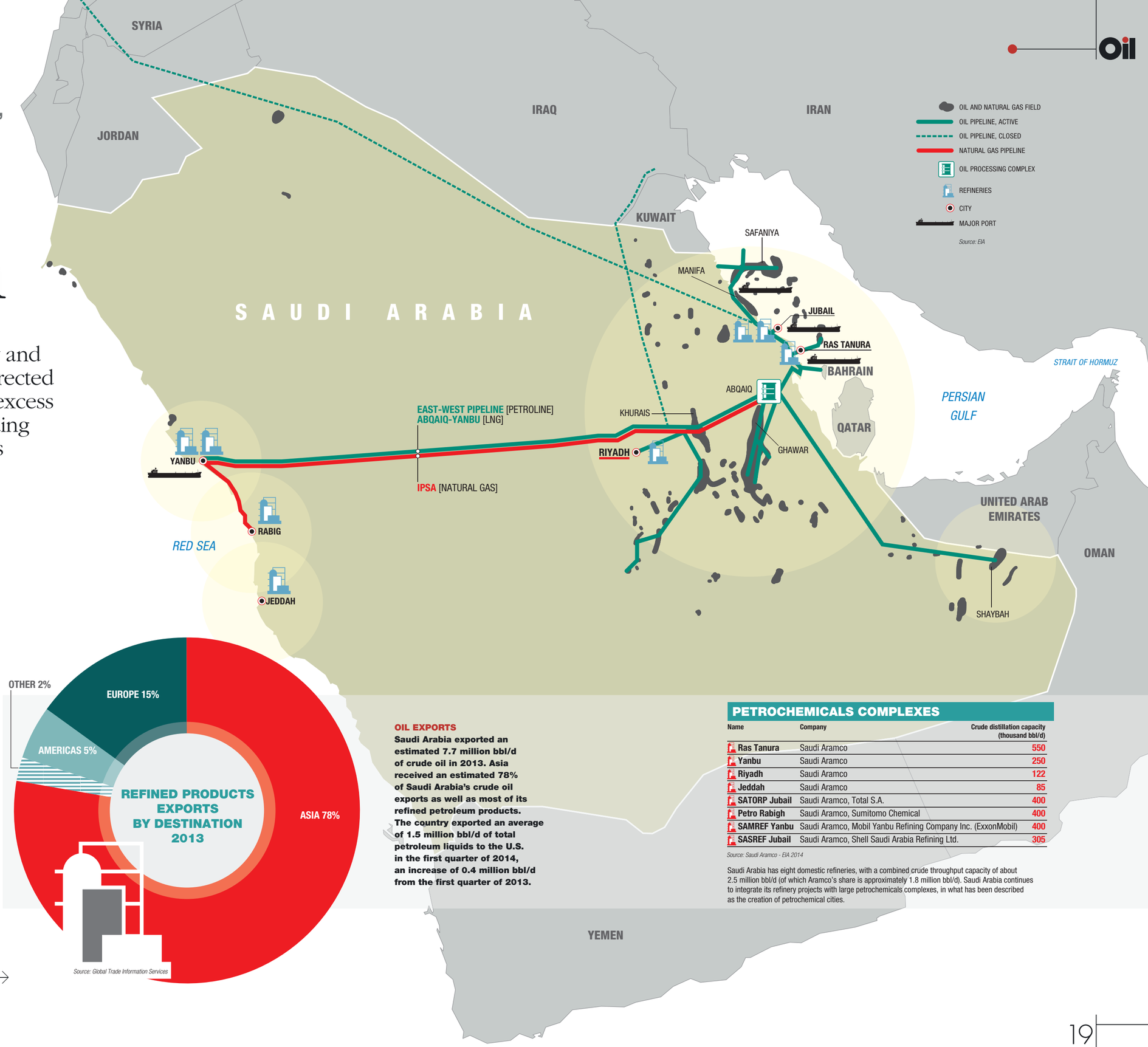
The imbalance between the supply and demand of oil is already being corrected and, well before the end of 2015, excess supply will have disappeared, leading to an upwards adjustment in prices

by JOHN ST. JEAN

Sadad Ibrahim Al-Husseini, former Deputy President of Upstream Operations for Saudi Aramco, the Saudi energy giant, and currently head of a major consulting firms for global oil services, believes that unless the Asian economy takes off, which could cause a sharp rise in commodity prices, the price of crude oil should reach $65-70 per barrel by summer and settle at $85 per barrel at the end of 2015. This, he believes, would restore a "healthy" balance between production and distribution.

Saudi Arabia, possibly the largest oil producer in the world, has played an important role in OPEC's decision not to cut crude oil supplies in order to stem the fall in prices. In your opinion, what are the reasons for the Saudi position? What might the consequences be, in the medium-term, for oil-producing countries belonging to the organization?

The Kingdom of Saudi Arabia has been a key player in OPEC since its founding. Also, the country's Minister of Petroleum, Engineer Ali Naimi, had decades of experience as the CEO of Saudi Aramco before becoming the Minister of Petroleum almost 20 years ago. We have seen these major market cycles of surging and collapsing oil demand recur many times since the early 80s. Each time that happened, the Kingdom took severe losses in terms of both oil production volumes as well as sales revenues. As an example, in the mid-80s during a similar crisis, our production dropped from 11 million barrels per day to no more than 2.5 million. This time, the reality is different. On one hand, the Kingdom has built a massive 12 million barrels per day capacity in order to protect oil markets from geopolitical instabilities, and on the other hand it has built an extensive downstream industry, inside and outside the Kingdom. This industry depends on steady volumes of oil production. Therefore, the Kingdom can no longer afford to play the role of swing producer with regard to oil production without causing major oil supply disruptions in both global markets as well as within its own domestic industries. Knowing that the competing suppliers are high cost producers in the U.S., Canada, the North Sea, the Arctic and the ultra deep offshore, the Kingdom opted not to change its production and let the markets set sustainable oil prices. The consequences of this strategy will be a return to a more balanced oil supply and demand market and will stimulate a growth in the demand for transportation fuels. Those OPEC producers who have been managing →



OIL EXPORTS

Saudi Arabia exported an estimated 7.7 million bbl/d of crude oil in 2013. Asia received an estimated 78% of Saudi Arabia's crude oil exports as well as most of its refined petroleum products. The country exported an average of 1.5 million bbl/d of total petroleum liquids to the U.S. in the first quarter of 2014, an increase of 0.4 million bbl/d from the first quarter of 2013.

PETROCHEMICALS COMPLEXES

Name	Company	Crude distillation capacity (thousand bbl/d)
Ras Tanura	Saudi Aramco	550
Yanbu	Saudi Aramco	250
Riyadh	Saudi Aramco	122
Jeddah	Saudi Aramco	85
SATORP Jubail	Saudi Aramco, Total S.A.	400
Petro Rabigh	Saudi Aramco, Sumitomo Chemical	400
SAMREF Yanbu	Saudi Aramco, Mobil Yanbu Refining Company Inc. (ExxonMobil)	400
SASREF Jubail	Saudi Aramco, Shell Saudi Arabia Refining Ltd.	305

Source: Saudi Aramco - EIA 2014

Saudi Arabia has eight domestic refineries, with a combined crude throughput capacity of about 2.5 million bbl/d (of which Aramco's share is approximately 1.8 million bbl/d). Saudi Arabia continues to integrate its refinery projects with large petrochemicals complexes, in what has been described as the creation of petrochemical cities.

SADAD IBRAHIM AL-HUSSEINI
Sadad Al-Husseini is the founder and president of the consultancy firm Husseini Energy Co. based in Bahrain and Saudi Arabia (www.husseinienergy.com). His career started in Saudi Aramco where he first held the role of senior vice president in the Exploration & Production industry and, subsequently, that of vice president of Upstream Operations until his retirement in 2004. He is credited with having modernized the development of the oilfields of Saudi Aramco, in addition to having participated in creating his institution, the Exploration Petroleum Engineering Center, in Dhahran. Sadad was a member of the Board of Directors of Aramco between 1996 and 2004. Today, Sadad Al-Husseini is a member of the Council of the Energy Intelligence Group and is a senior consultant for the energy sector at the King Faisal Foundation in Saudi Arabia.

their national economies in a prudent manner over the past years of high oil prices should have no difficulty in weathering this short phase of lower oil prices.

How long could Riyadh withstand such low oil prices without specific consequences for the country's economic stability?

There are basically no sustainable risks to the Kingdom's economy in 2015 at the current levels of oil production and anticipated prices. Of course, in absolute terms, a great deal of potential revenue will have been lost and this may result in the deferral of discretionary projects or non-critical development plans. On the other hand, the Saudi society is a young and affluent community and the income that has entered the national economy over many years will continue to sustain domestic economic growth at moderate oil prices of say $80 – 85 per barrel for years to come.

In what way has the Middle East crisis and the attempts by ISIS to take control of Iraqi energy resources influenced OPEC's decisions?

ISIS is a disgraceful phenomenon that represents demagogues who have rallied large communities of disgruntled citizens behind a false pseudo-religious banner. They have nothing to do with Islam and represent a domestic problem within Iraq and Syria. In fact, ISIS is the consequence of the disenfranchisement of major sectors of the population in those countries. Its solution lies within the hands of the Syrian and Iraqi governments and requires political steps to establish inclusive participation for all the sectors of their societies within their political institutions. OPEC and its oil production strategies have nothing to do with these specific problems. In fact, it is very likely that the Iraqi oil development programs will suffer because of the violence and other OPEC producers will have to sustain large volumes of spare oil capacity to address crises like the one in Iraq.

Do you consider energy independence for the United States a realistic prospect? How do you believe this situation could change the balance of relations, including trade relations, between Washington and the Gulf Countries, with Saudi Arabia at the helm?

We should distinguish between oil independence and energy independence. In the U.S., energy independence includes gas, coal and nuclear power. These are not relevant to the oil sector. In the oil sector, the U.S. still imports approximately 6.5 million barrels per day of crude oil in spite of producing almost 12.5 million barrels of its own oil equivalent liquids. The U.S. Energy Information Administration forecasts the U.S. will require even higher levels of oil within the next decade and will remain dependent on oil imports while competing with other economic powers for these supplies. Therefore, oil independence is not a credible outlook for the U.S. and even a shortfall of 2 or 3 million barrels of oil supplies would be disastrous for its economy.

Oil prices are currently at record lows. How long do you believe this situation can last? In your opinion, is there a naturally balanced price level that could be profitable, both for oil-producing countries and those countries, such as India and China and Europe, for example, which are more dependent on imports and which are reaping the benefits of this fall in prices?

The current oil prices are well below the full cycle cost of new oil supplies and are therefore already eroding the foundations for future oil supplies. Given this impact of low oil prices, our consultancy believes oil prices will trade around $65-70 per barrel this summer and return to $75-85 per barrel by the end of the 4th quarter of 2015. Prices may not go much beyond these levels until there is an economic recovery across the Far East and a strong return to a commodities-driven market across the world. Regarding what is a fair oil price for producers and consumers alike, today it averages around $85-90 per barrel for OPEC crudes. This is the cost that will sustain future supplies during the balance of this decade. In the longer term, it will rise significantly with the continued depletion of the low-cost OPEC reserves, which are the backbone of today's oil supplies. Countries across the world that are benefiting from these low oil prices need to plan beyond their dependence on cheap energy and need to rely on greater productivity, creativity and efficiencies in their energy related industries. This is often a matter of dysfunctional policies which cannot be resolved by lower commodity prices such as depressed oil prices.

The factors that appear to be affecting the fall in oil prices the most are the weakness of the global economy, the effects of energy efficiency, and also the increasing use of alternative energy sources. Which of these causes carries the most weight and what will the effects be in the future?

Although alternative fuels would be of great benefit from an environmental point of view, they have not had much success in many parts of the world because of their marginal economics. Energy efficiency, on the other hand, is a very effective option both to reduce the cost burden of energy as well as to extend the life of fossil fuels at low levels of environmental damage. The current international Light Duty Vehicle guidelines, for example, require the doubling of the fuel efficiency of cars from about 10 liters per 100 kilometers to 5 liters per 100 kilometers. This is an exceptionally good strategy that should serve the best interests of oil producers and consumers alike under any economic outlook.

Many oil companies, relying on the stability of oil prices, have gone ahead with drilling projects, both onshore and offshore, which are now economically questionable. What might happen if oil prices don't go up in the short term? Could there be repercussions on the stability of these companies and even on employment levels?

There is no doubt that many companies had counted on sustained high levels of oil prices. Many financial institutions had also made this same assumption. The repercussions have been very severe across the world, including in the U.S, Canada, the North Sea and Brazil. On the other hand, the imbalance in oil supply and demand is already correcting itself and the 2 million barrels per day of excess oil supplies will be eliminated well before year-end 2015. This kind of price volatility is of course very damaging for everybody. On the other hand, it is also the natural outcome of capital markets where the price of commodities is set by the surge or decline of major market economies. In the case of the oil industry, the fundamental reality remains that there is no credible alternative to oil-based transportation fuels. Economic growth across the world and steadily improving standards of living will always require the availability of affordable transportation fuels, regardless of near-term market volatility. Therefore, consumers and producers alike have a strong common interest to extend the life of this very vital commodity without which hardly any modern civilization would survive.

A double-standard relationship

The historic link between Washington and Riyadh is threatened by the America's increasing energy independence. Interview with Simon Henderson, director of the Gulf and Energy Policy program at The Washington Institute

An important date in the relationship between the United States and Saudi Arabia is, by chance, that of February 14, 1945, the day on which U.S. President Franklin Roosevelt, returning from Yalta, met Saudi King Ibn Saud aboard the USS Quincy in the Suez Canal. This historical moment sanctioned the fact that America would assume Britain's role supporting the Saudi dynasty. The agreement would have strategic importance: on the one hand, the United States would be ensured consistent supplies of oil, and on the other, the House of Saud would obtain Washington's support and protection, in addition to access to the technological know-how required for more efficient oil extraction. Today, the two powers find themselves reconsidering a relationship that has withstood a host of challenges and moments of political tension. Why the current recalculation? Washington, with increasing energy indepence, may place less importance on the relationship. The Saudis find a potential new partner in China. We spoke with Simon Henderson, director of the Gulf and Energy Policy Program at The Washington Institute, about the state of the relationship.

Has America's success with hydraulic fracturing for oil and gas changed the political relationship between the U.S. and Saudi Arabia?

U.S. fracking has changed the energy relationship and additionally has added to the vexed political relationship. Over the years, Saudi Arabia has continued to sell oil to the U.S. even though Riyadh has to subsidize the shipping costs to make it commercially viable. In part, selling Saudi crude here was part of Riyadh's desire to be a true world player in oil terms. But it also gave Riyadh additional leverage in Washington. The crude is refined at a U.S.-Saudi joint venture. Hence, with the growth of U.S. shale oil production, the Saudis have been additionally squeezed. But the political context has been important. Riyadh has been upset by Washington retreating from Syrian red lines and negotiating with Iran. From a Saudi point of view, the collapse of prices and the strain of U.S. shale producers has been sweet revenge, even if the price collapse has also been painful for Riyadh.

Has the death of King Abdullah impacted Saudi Arabia's outlook on oil pricing, and do you expect the Saudis to maintain their current course?

No immediate impact so far-but watch this space. Although Oil Minister [Ali] al-Naimi has retained his position, there have been more than expected changes in the Saudi power structure. If the existing policy is seen as needing to change, Naimi may be a casualty. Predictions rather depend on whether you view existing Saudi policy as carefully thought out, or merely reacting as best as they can in a turbulent situation. I personally view the Saudi policy so far as the latter, although much of the spin has been to depict it as the former.

In refusing to compromise on production, is Saudi Arabia trying to weaken its competition from shale oil and is it working? If yes, how this strategy is working?

Shale is part of the equation, but Saudi policy is mainly about disciplining OPEC and producers such as Russia. These oil production decisions depend on governments. U.S. shale production is about the attitudes of individual companies and wild-catters, altogether a much more difficult group to influence.

If the U.S. continues to produce a major share of its own energy, will that diminish its willingness to invest in military involvement in the region—or has that issue been overtaken by the security threats posed by groups such as al Qaeda and ISIS?

Political commentators usually don't understand the nature of the oil market! Oil is a worldwide commodity with variations in price related to quality and shipping costs. Broadly speaking, oil tends to be found in different parts of the worldfrom those places with high demand. There is more oil in the Middle East by far than anywhere else, and it is usually much cheaper to produce there than anywhere else. Therefore, the world economy will continue to look to the Middle East for oil even if the U.S. economy finds most of its oil at home or elsewhere in North America. But, trouble in the Middle East impacts the United States, meaning that the United States cannot be indifferent to what goes on in the Middle East. Making this argument to an ordinary American is becoming increasingly difficult, though, when "energy independence" is a catchphrase and the blood lost in Afghanistan and Iraq is such a sensitive issue. The danger to Middle East oil supplies has historically been seen as being first, the Soviet Union, and then revolutionary Iran. Now it is al Qaeda and ISIS. Both define themselves in terms of being anti-American, so it doesn't look as though we will be able to ignore the Middle East, either commercially or politically, for many years to come.

You wrote that Saudi Arabia was contributing to the oil price decline by discounting its own prices for contracted sales to clients in Asia. Is that still the case and what is Saudi Arabia's motivation?

Riyadh is holding on to "market share" in Asia. That still appears to be the policy. Declining Chinese growth and less-than-expected Japanese growth figures suggest that this will continue to be an important aspect of Saudi decision-making.

Why are the Asia markets, especially China, so important to Saudi Arabia? Is it simply a matter of sales, or do political power and influence play a role?

China's importance to Saudi Arabia is mainly as a market, but like many other countries, the kingdom is watching carefully as China seems to expand its international reach and develop a more defined role.
Riyadh wants to remain on the right side of Beijing, while nonetheless vieweing the U.S. as (still) its preferred security partner.

China was once seen as an insatiable energy consumer, but that has started to diminish. Who is the decline in Chinese consumption affecting most? How do you see that affecting political balances of power among the U.S., Middle East and China?

China is obviously the country to watch in the next ten years, but I am intrigued too by the prospects for India, whose economy could be on track to rival China's in the next ten to twen years. India is physically much closer to the Middle East, but its political relationship would be more complicated (given Indian tensions with Pakistan). Judging the U.S. role in the future depends on the legacy/longevity of the Obama Administration's current cautious foreign policy approach.

MOLLY MOORE

Gulf countries/A stronger future for the oil-producing nations

Resilience increases, but there are still challenges on the horizon

In facing declining oil prices, the oil-producing states of the Gulf region benefit from very low foreign debt and huge foreign exchange reserves, but impending fiscal deficits will bring challenges, particularly to those that fail to diversify their economies

by BASSAM FATTOUH

The sharp decline in the price of oil has altered the economic outlook for the Gulf Cooperation Countries states. Following a period of sustained real GDP growth (which averaged 5.8 percent during 2000–11), the IMF projects growth rates of GCC countries will fall to 3.4 percent in 2015 and 3.3 percent in 2016. Also, after having achieved large fiscal surpluses (averaging 12.2 percent of GDP during 2000–11), the GCC countries are projected to run fiscal deficits of 6.3 percent and 4 percent of GDP in 2015 and 2016 respectively. This change in macroeconomic outlook is already having an impact on key sectors. The region's stock markets have tumbled from the high levels reached in the first half of 2014, local banks are reining back their lending and the confidence of the private sector has taken a strong hit.

BETTER POSITIONED THAN MOST

When compared to their counterparts in other parts of the world, the GCC oil exporters are in a much better position to withstand a period of lower oil prices. Key Gulf oil producers—such as Saudi Arabia, Kuwait, and the UAE—have low foreign and domestic debt. Saudi Arabia, to take one example, has no foreign debt, and its domestic debt is less than 2 percent of GDP. Also, over the last few years, the GCC producers have accumulated large reserves of foreign currency, which provides their economies with a sizeable fiscal buffer. At the end of December 2014, the IMF estimated Saudi Arabia's holding of foreign currency reserves at more than 718 billion U.S. dollars (USD). Thus, in the short term, GCC producers can maintain their current levels of spending and rely on debt markets and foreign assets to cover their fiscal deficit. Alternatively, they could lower their expenditure target, which has risen rapidly over the last decade. Saudi Arabia's budgeted expenditure increased around threefold over the last decade—from less than 300 billion Saudi Arabia Riyals (SAR) in 2005 (around USD80 billion) to SAR860 billion (USD229 billion) in 2015.

CONTRAINDICATIONS OF A CUT IN PUBLIC SPENDING

Cutting government expenditures, however, presents a serious challenge, as Gulf monarchies have historically channelled oil and gas revenues into social security, health, education, and the provision of employment as part of their implicit social contracts. They have also responded to the upsurge in political turmoil across the region by implementing further increases in social spending. In addition to increased spending on their own economies, Gulf States have increased their financial support for some of their ailing strategic partners in the region. It is estimated that Egypt alone has received financial aid of around USD16.7 billion from GCC states in the fiscal year ending on June 31, 2014. Government expenditure, fuelled by oil and gas revenues, is the main locomotive of economic growth in the GCC. Thus, any adjustment in expenditure will not only have wide repercussions for public sector consumption and investment, but also direct and indirect effects on the performance and confidence of the private sector.

The majority of government spending in the GCC is directed towards 'current' expenditure. For instance, in Saudi Arabia, current expenditure constitutes around 70 percent of total government expenditure, with wages, salaries, and pensions accounting for around half of total government spending. Such spending is needed to finance a large and ever-growing bureaucracy and public sector, which remains the main employer of GCC nationals (for instance, since 2003, Saudi Arabia has increased the number of government jobs by 70 percent). This concentration of spending on wages and pensions constrains GCC governments' ability to cut their expenditures. On the contrary, far from implementing cutbacks, the unveiling of numerous pay packages in the aftermath of the Arab Spring (King Salman Bin Abdulaziz's order to pay two months' basic salary to all Saudi government civil and military employees is the most recent) indicates that current expenditures will continue to grow, perhaps above the rate of inflation.

THE SECTOR MOST AFFECTED BY THE COLLAPSE OF OIL PRICES

Given these constraints, it is capital expenditure that is likely to take the biggest hit if the current environment of low oil prices persists. Buoyed by high oil prices, many of the GCC countries have increased their spending on capital projects both to upgrade and to build new infrastructure. For instance, the Qatari government has embarked on a very ambitious public investment program in infrastructure (including new airport, port, metro, road and railway infrastructure) and other projects (among them, petrochemical plants) to diversify its economy. According to the IMF, the investment projects in Qatar amount to some USD210 billion over 2014–21. A large part of the spending would come out of the government budget – the government is expected to finance an estimated USD160 billion of these projects. Multi-year projects that have already started are unlikely to be scrapped, but new non-strategic projects are likely to be delayed or cancelled, especially if there are increasing concerns about the efficiency and the quality of some of this public spending. While lower revenues may force GCC producers to adjust their spending, this is a long way from the predictions of doom heard recently – that the current changes in oil market dynamics will erode the revenue base of key Middle East producers, with detrimental effects on the survivability of their ruling regimes. For instance, Citibank argues that:

[S]ome producer countries ... those suffering most acutely from the resource curse →

NEW PROJECTS IN DOUBT
With high oil prices, many GCC countries allocated substantial funds to investment projects aimed at restoring existing infrastructure projects or building new ones. Long-term plans, already in progress, are unlikely to be abandoned, but new, non-strategic plans are likely to be postponed or canceled. Pictured, the Stock Exchange of Doha in Qatar.

may see their leadership come under heightened pressure for economic and political reform, as revenues gradually diminish, raising the risk of creating new failed states in the process [and as a result] importing countries may seek new terms of engagement with new suppliers, re-drawing the map of the international system in the process.

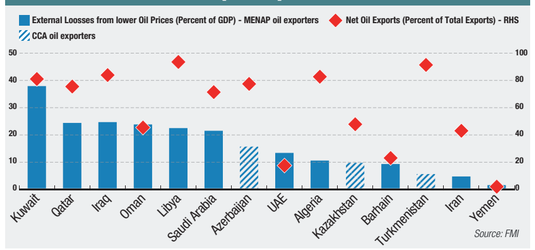
Such views, however, should not distract us from identifying some of the long-term challenges facing the GCC economies. While GCC countries have become more resilient over the years--thanks in large part to their 'prudent' countercyclical fiscal policies and the sustained period of high oil prices--deeply rooted structural challenges remain. Despite serious strains on their economic development model, these countries have faced reduced pressure to change because of the flow of oil revenues. A sustained period of low oil prices, however, may increase the degree of urgency felt in GCC countries to accelerate their reforms. At the same time, such a reduction may also limit their options, especially because their internal political, economic, and social developments have become more interlinked with those of the rest of the region in the aftermath of the Arab uprisings.

CHALLENGES ARISING IN THE NEAR FUTURE

The reform of energy subsidies will be crucial. While the MENA region's large oil and gas producers have faced much less immediate fiscal pressure to reform their domestic pricing frameworks, rationalization of their domestic energy consumption will become increasingly important in the future, as their continued reliance on resource export revenues ties the policies affecting their domestic consumption patterns to their long-term fiscal, and hence political, stability. Another key area is the labor market, which remains highly segmented into many different groupings. There is little incentive for the private sector to employ local nationals and limited space for the public sector to generate much-needed jobs for the GCC's young population. Above all, the six GCC economies generally remain among the Arab world's least diversified economies, and are faced with the highest degree of economic dependence on the hydrocarbon sector for the generation of economic output, export, and government revenues.

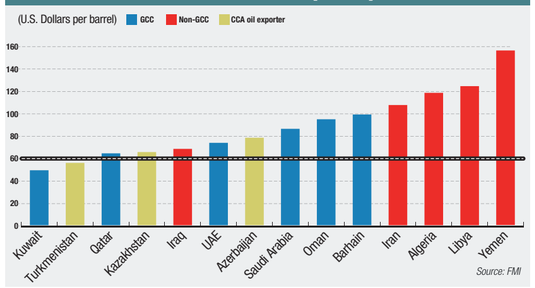
Significant variations exist among the GCC states: Bahrain and the UAE have diversified their economies to a larger extent than have their more oil-rich neighbours Kuwait and Saudi Arabia.

EXTERNAL LOSSES (2015)



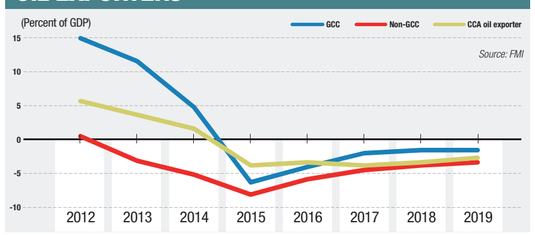
The large decline in oil prices will lead to significant revenue losses for oil exporters in the MENAP (Middle East, North Africa, Afghanistan and Pakistan) and CCA (Caucasus and Central Asia) regions because most of these economies are highly dependent on oil. Oil exports account, on average, for two-thirds of total exports in the MENAP and CCA oil exporters.

FISCAL BREAKEVEN PRICES (2015)



Most oil exporters need oil prices to be considerably above the $57 projected for 2015 to cover government spending, which has increased in recent years in response to rising social pressures and infrastructure development goals.

OIL EXPORTERS



The oil price decline is expected to significantly erode fiscal positions across the region in 2015. The recovery in the coming years is expected to be slow and difficult.

This is due primarily to the need for Bahrain and the UAE to build up alternative industries, in view of Bahrain's decreasing resource base, and the lack of oil and gas resources in the emirates comprising the UAE (other than Abu Dhabi).

Low levels of economic diversification amongst the Arab world's oil and gas producers raise a number of different long-term policy challenges. A high rate of dependence on oil and gas revenues reinforces patterns of volatile government revenues, the level and stability of which remain outside the direct control of producing countries. High levels of economic dependence on the oil and gas sector also reinforce established patterns of long-term dependence on export revenues.

LIMITED POLICY OPTIONS

But there is another important dimension, one that is widely ignored and which could have repercussions on the current dynamics of the oil market: high dependency on oil revenues limits producers' oil policy options. Back in 1998, Robert Mabro of the Oxford Institute of Energy Studies argued that for 'price wars' aimed at capturing market share to succeed:

Prices have to fall below costs. On their way down they will remove some marginal barrels from the market, not enough to increase the volumes supplied by the low cost producers by a proportion sufficient to compensate for the loss in price. Prices have to fall a long way and price expectations have to remain depressed for a long time for a significant improvement of the market share of those who launch an oil price war. No oil-exporting country has the financial resources which enable it to sustain such a policy.

Despite the GCC's larger financial reserves, the basis of Mr Mabro's argument still holds: (i) producers whose main income is derived from oil revenues cannot maintain a strategy of seeking market share, they will eventually have to focus on maximizing revenues; (ii) a producer with a more diversified economy has more flexibility in pursuing its oil policy (therefore economic and oil policies are strongly interlinked). Therefore, in analyzing oil markets, we must look not only at global oil market indicators such as oil supply–demand balances, inventories, and storage capacity, but also look deep inside key oil-producing countries and study the economic choices that their governments take in this new price environment. ■

ABO About Oil

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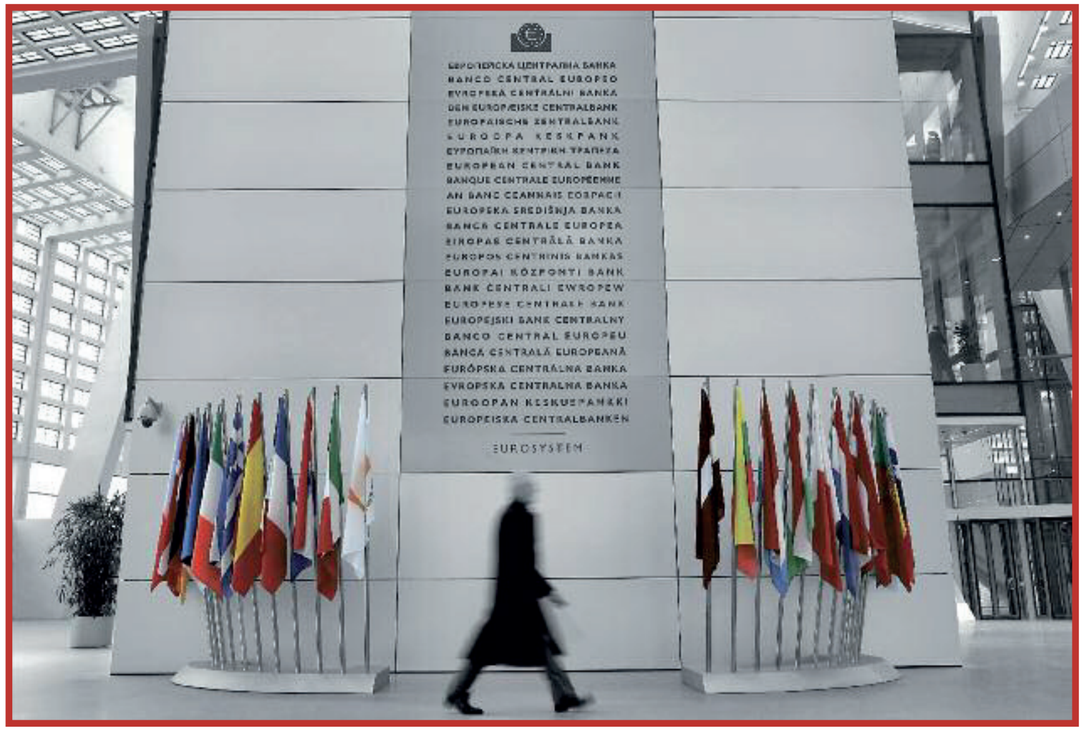
Bassam Fattouh, in addition to his role as Director of the Oil and Middle East Programme, is also Research Fellow at St Antony's College, Oxford University; and Professor at the School of Oriental and African Studies.

European Union/Under pressure due to the "side effects" of the oil collapse

A continent of paradoxes

Struggles with austerity, deflation, poor growth, high unemployment and out-of-control debt plus a decline in oil prices could frustrate the ECB's efforts to revive consumption and avoid deflation



by PAUL BETTS

A few years ago, policymakers and governments in Europe were fretting about high oil prices and the risk of crude going up above $150 a barrel and, if some Wall Street and City of London experts were to be believed at the time, rising to as much as $200 a barrel. Now they are all fretting again, but this time over the collapse of oil prices, which by most accounts are expected to remain weak and volatile in coming months. Truthfully, no one really knows when a sustained and lasting recovery in prices will occur. But how do you explain the current fretful reaction of European governments and policymakers, not least the ECB, which has just launched a much-awaited program of quantitative easing to help stimulate growth and tackle Europe's deflationary pressures. After all, Europe and especially the Eurozone should be one of the big winners of slumping oil prices, since it is heavily dependent on oil and gas imports. Assuming no price rises this year, oil prices will certainly have a very positive impact on the growth of Eurozone countries in 2015, says Patrick Artus, chief economist at the French investment bank Natixis. "Taking into account the weight of energy imports from and exports to oil-exporting countries—because it should not be forgotten that those countries' imports will decline due to the fall in oil prices—we should see additional increases in 2015 of approximately 0.9 percent of Gross Domestic Product in Germany, 0.9 percent in France and 1.4 percent in Spain," he adds in a recent paper.

OIL DOWN, STOCK PRICES UP

The Swiss bank UBS has also made an interesting analysis of two previous oil supply shocks in 1986 and 1990. It found that for every 10 percent fall in oil prices, earnings at quoted European companies rose 2 percent. At the same time, profitability was expected to receive a further 4 percent to 5 percent boost for every 10 percent fall in the trade-weighted Euro. Listed European companies in the energy sector obviously suffer from a weaker oil price, but their share of profits is significantly outweighed by the share of European companies that benefit from the lower oil price. For the Eurozone in general, a fall in oil prices also implies first and foremost increased purchasing power for consumers and reduced output costs for companies. Cheaper petrol and heating fuel costs should →

put more money in consumers' pockets. The Euros saved filling up a car tank can be spent elsewhere stimulating economic activity. All in all, the Eurozone region as a whole should see a boost to growth of about 0.5 per cent this year from the fall in the price of oil, according to economists, and receive a further boost from the effects of the weaker Euro. So why are European policymakers and economists so glum when by all accounts they should be pleased by falling oil prices and the prospect of this helping to boost growth and revive the Eurozone from its economic torpor. Even one of the most prudent of policymakers, ECB president Mario Draghi, admitted in December that "oil prices have an obvious direct impact on the price of energy and on that ground the effect is unambiguously positive." So how do you explain this European paradox over oil prices? Mr. Draghi provided the answer when he warned before Christmas that the lower oil price had less positive effects on inflation and "could alter the profile of inflation rates over the coming months, especially the next few months."

ACTION TO STOP DEFLATION

Eurozone inflation is still well below the ECB's target of just below 2 percent and the fall in the price of oil has provided the ECB with a new headache to contend with. Indeed, the biggest fear in Europe at the moment is the region's slide towards deflation and the nightmare of a "Japan-style" lost decade. This January, the Eurozone's ongoing battle to bring a period of falling consumer prices to a quick conclusion, and in so doing minimize the risk of a slide into a deflationary spiral, suffered a further setback. For consumer prices fell in January at the joint fastest rate since records began in 1997. Worryingly, the decline has broadened out beyond energy, with prices of manufactured goods also lower and prices for services rising at a slower pace. This trend is all the more alarming for ECB policymakers who are anxious to prevent the fall in the price of oil having what Mr. Draghi calls "second round effects" as consumers hold back on spending in the expectation of still lower prices in the future, businesses cut their prices to gain or protect market share and workers settle for lower pay raises. In an already stagnant economic climate—after all, the fall in oil prices is largely a reflection of weak global demand notwithstanding other geopolitical considerations and the growing impact of renewables, especially in Germany, where they now account for 25 percent of total energy consumption—persistently low inflation not to mention deflation provokes a vicious circle that leads the economy to fall and unemployment to rise. In spite of the recent expansion in energy production from renewables and alternative energy sources, the slump in oil and gas prices is also expected to have an impact on Europe's efforts to boost the development of these alternative and renewable energy sources. Remember the U.S. presidential example? When oil prices spiked back in the 1970s, the then-U.S. President Jimmy Carter decided affix solar panels to the roof of the White House, only to have his successor Ronald Reagan rip them off when the oil price tumbled again. Analysts worry that a sustained drop in oil prices risks putting pressure on the development of biofuels and will make it much harder to turn electric cars into an economically-viable alternative. As for big renewable projects—such as the vast offshore wind farms planned for UK waters, which require massive funding—these may no longer be particularly attractive to investors and edgy financial markets, especially when energy giants are all cancelling a lot of capital spending.

CUT IN TAX REVENUE

Another broader problem arises with income and tax revenues falling too. Debts and deficits, both of governments and individuals, become harder to keep under control. There is the danger of re-igniting the Eurozone's debt crisis barely four years after its full-blown sovereign debt crisis. And this before taking account of rising geopolitical risks in the European region with the ongoing crisis in Ukraine, the new Greek government's opposition to austerity and the rising anti-austerity party in Spain, where elections are due shortly, not to mention the economic problems of France and Italy. So with the unsavory combination of low growth, underinvestment and financial deficits, all the ingredients are there for a resurgence of the 2009 crisis, warns Patrick Artus of Natixis. But he also argues that such a crisis will not emerge so long as growth is stimulated by the fall in the price of oil and by the ECB's determination to prevent such a crisis and seeing the Eurozone enter into a deflationary spiral. Unfortunately, inflationary expectations are continuing to fall rapidly in Europe. A European Commission survey published at the end of January found that for the first time since early 2010, consumers expect prices to drop over the coming 12 months. They are not alone. Manufacturers, service providers and retailers all expect their selling prices to decline over the coming year.

A CONFIDENCE BOOST FOR CONSUMPTION

The ECB has reason to be anxious that households and businesses will grow accustomed to falling prices and postpone spending decisions in anticipation of a better deal later in the year. In turn, this leads to falls in output and further drop in prices. The annual rate of inflation in the Eurozone has been falling since the summer 2012 and has been below the ECB's target for two years. And the ECB and other central bankers have acknowledged that once inflation expectations become "de-anchored" from the official inflation target—just below 2 percent in the case of the ECB—it can become very difficult to reattach them. All this explains why, in spite of strong reservations from Germany, the ECB finally decided to take the plunge in January and announce a significant quantitative easing (QE) program to try to jolt the Eurozone out of its chronic malaise and steer inflation back to its target of just below 2 percent. The ECB will be buying Euro 60 billion worth of private and sovereign assets a month starting in March for a total of Euro 1.14 trillion until September 2016. This large scale bond buying program should ease market pressures and boost lending to the economy and private householders. The ECB is also clearly hoping its QE program will bolster confidence, support activity and raise inflation expectations. However, given the sharp decline in energy prices, it must also be hoping that the weaker euro will also help not just by boosting exports but feeding through into higher import prices. For the deputy head of the German Chamber of Industry and Commerce, Volker Treier, the reasoning behind the ECB's decision is plausible to some extent. "It is plain to see that prices are increasing too slowly. Markets fear deflation, which means Mr. Draghi was right in rethinking ECB policy. And once the policy was out in the public debate, he could probably not contain it anymore," he recently explained. But reflecting German concerns over the longer-term impact of QE, he added: "It is not at all an appropriate means to increase competitiveness in the Eurozone, which is important. The move sends a bad signal to countries which may now be led to think that their state budgets are going to be funded by the central bank under any circumstance."

CONTRADICTORY SIGNS OF RECOVERY

There have been of late some encouraging signs here and there in countries such as Spain, where growth has resumed in spite of falling prices. Recent German retail sales figures suggest falling energy prices have boosted consumption, though not by as much as expected. In France, the region's second largest economy, consumer spending by volume rose by 1.5 percent at the end of last year as lower energy costs boosted the amount of energy and food bought by households. But the problem is that looking at the wider economic situation, it is difficult to become too optimistic. The overwhelming impression is of a very weak European economy struggling with a dangerous mix of austerity, deflation, weak growth, high unemployment and debt, not to mention political pressure from the likes of Greece. Falling oil prices at the end of the day do very little to tackle Europe's fundamental problems. And what happens when the current stabilizing mechanisms propping up the European economy fade away? The price of oil will eventually rise again and the ECB will also be forced to stop its expansionary policies at some stage due to drawbacks such as excess liquidity and the distortion of asset prices. More than five years after the big euro crisis unfolded, the region is still not out of the woods. If anything, it remains in a highly vulnerable state, and it is certainly not the result of the boom and bust cycles of the oil market. As Lord Norman Lamont, the former British Chancellor of the Exchequer under the Conservative Prime Minister John Major, points out: "a new euro crisis is never far away."

Paul Betts has worked for the *Financial Times* for the last 36 years, including 28 years as the paper's foreign correspondent in Rome, Paris, New York and Milan. He is currently based in London.

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winners losers

United Kingdom **Lower profitability and investment in the hydrocarbon sector**

The crisis over the En glish Channel

An increase in operational costs and a 60 percent decrease in North Sea exploration have made the British oil industry more vulnerable to down markets; its losses in 2014 reached 5.3 billion pounds

Like the rest of the developed industrialised economies in the Eurozone, Britain is a clear beneficiary of lower oil prices. And with its economy growing faster than its sluggish European counterparts, it is probably an even bigger beneficiary of cheap oil. One think tank, the National Institute of Economic and Social Research, now sees the UK's Gross Domestic Product growing 2.9 percent this year compared with an earlier estimate of 2.5 per cent. "This is almost entirely due to the sharp fall in the oil price. Not only does this boost consumer spending, it also improves the UK's trade balance," the institute notes. The Bank of England's governor agrees, saying that the drop in oil prices is overall a net positive for the UK economy because it will flow quickly through to consumers and increase disposable income.

Danny Alexander, the liberal democrat chief secretary to the UK Treasury, goes further. He calls the drop in oil prices "a giant tax cut for the economy." But unlike those of its Eurozone neighbors, the British economy is among those most vulnerable to the negative effects of falling prices. For although North Sea oil production has been steadily falling in recent years, the UK offshore oil and gas industry and its Scottish hub of Aberdeen remain vital to the overall health of the UK economy.

Since drilling first began in the UK Continental Shelf in the 1970s, the offshore oil and gas industry has been one of the few reliable sources of revenue for the government. The industry employs around 450,000 people across the UK and oil and resources companies including BP, Royal Dutch Shell and BHP account for nearly 20 percent of the weighting of the FTSE-100 stock index.

AN EXISTENTIAL CRISIS

The industry is now facing an existential crisis that has spilled over into the political arena with a general election due in May. Oil and Gas UK, the industry body that represents UK offshore operators, warns in its latest annual report published at the end of February that "without sustained investment in new and existing fields, critical infrastructure will disappear, taking with it important North Sea hubs, effectively sterilising areas of the basin and leaving oil and gas in the ground." In 2014, the UK North Sea oil industry suffered record losses as the global oil price collapsed. Industry revenues totalled £24.4bn last year but increased operational and decommissioning costs meant there was an overall loss of £ 5.3bn. Thousands of jobs are now at risk and hundreds of jobs have already been cut by oil firms operating in the UK North Sea. As a mature basin, the North Sea is more vulnerable to a downturn today than it was 15 years ago. "Rising costs, taxes and inadequate regulation have taken their toll on the UK oil and gas industry's international competitiveness," the industry lobby group says. A recent study by accounting and consultancy firm Deloitte showed that exploration in the area had collapsed by almost 60 percent going into the second half of last year, as oil and gas companies focused more of their diminishing cash resources on newer emerging prospects in Africa and the Gulf of Mexico. Bob Dudley, the chief executive of BP, recently warned when his company reported earnings that a third of the fields offshore in the North Sea could be at risk should prices remain at their current levels for a prolonged period. Sir Ian Wood, the oil industry veteran and government adviser, also warned that North Sea output could fall by as much as 10 percent and 15,000 jobs could be lost in Scotland with Aberdeen hit especially hard. Dr Andy Samuel, the chief executive of the Oil and Gas Authority, the new North Sea regulator, sees two particular risks in the current situation. The first is that profitability of the UK's current oil and gas fields will be insufficient to attract continued investment. This could lead to premature decommissioning of critical North Sea infrastructure and result in valuable oil and gas resources left in the ground.

REPERCUSSIONS IN OTHER SECTORS

The resulting domino effect could have a negative impact on all areas of the industry from employment, to supply chain development, to technological innovation. The second risk is a loss of confidence in the future potential of the UK Continental Shelf. This could result in the UK failing to secure the necessary long-term investments to maximise economic recovery of its North Sea oil and gas resources. Dr Samuel points out: "Significant hydrocarbon resources and economic value are yet to be delivered from the UK North Sea. But to unlock this potential we must create a competitive and efficient operating environment, where costs are effectively managed and companies have the confidence to invest today and tomorrow." With a general election in May, the government and the opposition parties have been weighing into the political debate about the future of North Sea oil with all the alarm bells ringing from one of the country's largest industries. George Osborne, the outgoing chancellor of the exchequer, has vowed to support the North Sea oil and gas industry in his last budget in March. "While the huge fall in the oil price has been a real benefit to the British economy, it has been a challenge for the North Sea oil and gas industry," he recently said, promising to do everything to protect what he called "a great national asset." "I have already cut taxes in the North Sea and we are now looking at what more we can do to work with the industry and to support investment in this important sector," he pledged. The question is whether this will be enough and not too late to prevent the sun setting on the UK's mature North Sea oil industry.

(P.B.)

Increased energy production is crucial to boosting the economies of Alaska and America as a whole. This can be achieved by opening up areas that are currently precluded from exploration

U.S./Lisa Murkowski, Chair of the U.S. Senate's Energy and Natural Resources Committee

We need to produce more energy

by RITA KIRBY

Third-generation Alaskan and Republican Senator Lisa Murkowski is convinced that energy is "a good thing." While environmental protection must be an integral part of an overall energy policy, an increase in production is also crucial at this time of low oil prices in order to ensure future energy security, jobs and cheap prices. As the new Chairperson of the Senate Energy and Natural Resources Committee, she seeks to influence the nation's energy agenda.

Overall, the U.S. economy is expected to get a boost over the next two years from lower oil prices. What about oil states like Alaska, where you come from, or Texas?

In order to give Alaska's and America's economy a boost, domestic energy production needs to increase. This starts with opening new areas to energy production that are currently closed. Right now, energy production on state and private lands is at an all-time high, while energy production on federal lands continues to decline. This is directly related to federal policies that are standing in the way of increased American energy production. Alaska is being hurt at least as much by low production – which is the result of severe federal restrictions – as it is by low prices. If we can begin producing even a small fraction of the estimated 35 billion barrels of conventional oil within Alaska's federal areas, we will be in a much better place, budget-wise.

157
Billion dollars (current value) has been raised by the state of Alaska from oil since 1959

Low oil and gas prices may persist for several years. Are there going to be political ramifications of these low prices? Can they change America's political geography?

Keeping energy affordable for American families should not be a political issue, but, unfortunately, we all know it can be. My priority as a lawmaker is to pursue policies that contribute to keeping our energy supplies affordable, abundant, clean, diverse and secure. I believe that's important for the many economic benefits lower energy prices bring – including more discretionary money for families and an ability to invest in hiring more workers for American businesses. Increased oil and gas production here at home also provides the United States greater flexibility in achieving its foreign policy goals.

President Obama vetoed the Keystone XL Pipeline legislation, and the Senate ultimately wasn't able to override the veto. In the current environment, with the flood of oil hitting the markets, is there a risk of a political boomerang?

President Obama has brought politics into the approval of the Keystone XL pipeline. Instead of embracing an infrastructure project that will create jobs, help keep energy affordable, and increase North American energy security, he has sided with those who oppose this vital energy project based on dubious or false arguments. This project won't cost taxpayers a dime, and the State Department has found that it is the safest and cleanest way to transport oil across the Midwest to the Gulf Coast. The oil prices we are seeing today are the result of well-supplied markets, but there is a real question as to whether we will act to help keep them that way. Right now, it certainly doesn't look like the President is interested.

90
The percentage of revenue for the U.S. – despite the decline in production – that will come from the oil and gas industry

As chair of the Senate Energy and Natural Resources Committee, you are leading the debate over energy policies. What are the key points of your vision for America's energy future?

I released a 120-page blueprint for reforming the nation's energy policies – Energy 20/20: A Vision for America's Energy Future – two years ago. My premise was that America's energy and natural resources policies must be reimagined, and my thesis was that it is in our national interest to make energy abundant, affordable, clean, diverse and secure. A true "all of the above" approach is the right approach for the United States. The challenge before us is to develop federal policies that align with that consensus, but we are going to work on a broad energy bill in our committee this year to help meet those goals.

54
The percentage of production in Alaska coming from the Prudhoe Bay area, the largest oilfield in North America

You are a third-generation Alaskan who believes that "Energy is good." You are well-liked by colleagues and they describe you as driven to get things done and do what is right even if it means crossing party leaders. Will that be the case with regard to environmental issues like climate change and energy efficiency?

The new Senate Republican majority accomplished more on climate change and energy efficiency in the first month of the 114th congress than was accomplished on these issues when Senate Democrats were in the majority. Over the course of this Congress, we will keep working on energy efficiency, in particular. I believe we should be taking practical steps to improve our use of energy and to reduce our emissions – but we have to do it in way that doesn't harm our economic competitiveness. Like many of my colleagues, I'm simply not supportive of policies that would intentionally make energy more expensive. I come from a place where people are paying $10 a gallon for diesel fuel to heat their homes. I can't tell them they have to pay more to stay warm or drive to work. That's a nonstarter in my book.

3.8
Million bbl/day in 2014 is the total number of U.S. petroleum product exports, which has increased for the thirteenth consecutive year

The Obama administration unveiled a proposal that would designate 12.28 million acres, including the Arctic National Wildlife Refuge's coastal plain, as wilderness, and called on Congress to approve it. Why do you oppose it?

I was greatly disappointed to see the president's announcement for a number of reasons, not least of which was the lack of consultation with Alaskans. The area we're talking about is the United States' most promising onshore conventional field, with an estimated 10.3 billion barrels of oil that could be produced from less than 0.1 percent of the entire refuge. The only part we're talking about is in the non-wilderness part of the refuge – not usually the area you see in pictures. And it's our best option for refilling a national security asset, the Trans-Alaska Pipeline System, with American oil. We're talking about fields that could produce for decades, all the while creating thousands of new jobs, generating billions of dollars in revenue for every level of government, and helping to keep energy affordable. There is zero downside to opening the coastal plain, and that's why close to 80 percent of Alaskans support production from it. It's also important to realize that the Obama administration did not stop at designating 12 million acres of wilderness on the coastal plain of Alaska's Arctic National Wildlife Refuge. Two days later, it permanently withdrew 10 million offshore acres from energy production. We can't even win permission for long-stalled projects in our National Petroleum Reserve to advance to commercial production. And all of this is happening at the same time we face a glut of new federal regulations – including the EPA's climate rules, an effort to expand the number of projects that require Clean Water Act permits, multiple ESA listings, and many more. It's an onslaught. Our experience is that the Obama administration is right with anyone who wants wilderness, but almost completely against anyone who wants new production. Given the needs of my home state, I can't accept that, and I will absolutely keep fighting it with everything I have.

60
The percentage of total utilization of crude oil storage capacity in the United States in February 2015 (48% in February 2014)

LISA MURKOWSKI
Senator Lisa Murkowski is the first Alaskan-born Senator. She is the chairman of the Senate energy and natural resources committee. The state's senior Senator, since joining the Senate in 2002, Senator Murkowski has been a strong advocate for Alaska on the important issues facing the state, including energy, health care, education, military/veterans' affairs and infrastructure development.

For numbers highlighted in green, source: AOGA, U.S. EIA

U.S./The role and prospects of unconventional hydrocarbons

The revolution won't stop

With the collapse of oil prices, a domino effect is feared in an industry that has made the U.S. a key player in the energy game. Experts reassure that this energy revolution will survive and thrive

EYES FIXED ON LTO
Excavation operations for construction of a oil pipeline in Gascoyne, North Dakota. The light tight oil sector will play a fundamental role in determining the future markets. The IEA estimates that by 2020, the supply will increase by about 5.2 million barrels per day.

by MOLLY MOORE

Will the American shale gas and tight oil boom that helped shove global oil prices over the cliff now be the downfall of the U.S. unconventional oil and gas industry? As oil prices plunged to new lows, pessimistic reports of job layoffs and corporate retrenching dominated the business headlines across America. However, the expectations of most analysts and prognosticators is that such panic is short-sighted and that the light tight oil industry will be instrumental in determining world markets and pricing for years to come. "The price correction will cause the North American supply 'party' to mark a pause; it will not bring it to an end." So said the International Energy Agency in its latest Medium Term Oil Market report. IEA Executive Director Maria van der Hoeven went a step further: "LTO might, in fact, come out stronger." No recent transformation in the oil and gas industry has had a greater impact on global oil pricing and politics than the explosion in U.S. shale gas and tight oil. It has repositioned America in the global energy food chain—surpassing Saudi Arabia and Russia as the world's top oil producers in 2014—and has altered Washington's outlook on its global energy security interests.

HOW OIL AND SHALE GAS HAVE CHANGED THE FUTURE OF THE U.S.

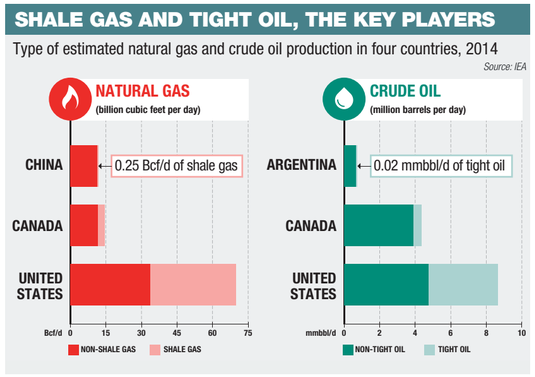
"The shale oil and gas revolution has fueled U.S. economic growth, changed global energy dynamics and transformed global geopolitics," writes Afshin Lolavi, senior fellow and director of the Global Emerging and Growth Markets Initiative at the Foreign Policy Institute of John Hopkins University School of Advanced International Studies. The IEA estimates that while shale oil production may flatten—or even drop—in the next two years, by 2017 prices will surge, and by 2020 supply will increase to about 5.2 million barrels per day, compared to 3.6 million barrels per day in 2014. The U.S. will remain safe on its perch as the largest source of oil supply growth in the world for at least another five years, according to IEA projections. For the United States, the proliferation of light tight oil and unconventional gas production has raised the country's international energy output profile and has prompted congressional review of U.S. energy policies. Washington is debating whether to modify its decades-old policy banning exports of raw crude. The prohibition was imposed in the 1970s after an OPEC oil embargo sent prices into the stratosphere and prompted panic buying and long lines of automobiles waiting to gas up. The American Petroleum Institute, which is the oil industry's largest and most influential lobby in the U.S., is running a multimillion dollar television advertising campaign portraying the meteoric output of the country's shale oil industry as providing more than enough oil for both domestic consumers and exports overseas. On the U.S. domestic level, unconventional oil and gas production has transformed local landscapes, serving as an economic bright spot during the worst national recession in decades. It has also increased income and tax revenues and provided new sources of employment during an otherwise grim economic period. It was an energy largesse that caught most industry experts and analysts by surprise. The United States, Canada, China and Argentina are the only four countries now producing sizeable commercial amounts of natural gas from shale formations or crude oil from tight formations. The U.S. is the dominant producer of both, with some of its greatest shale gas production occurring in the eastern U.S. at the Appalachian Basin's Marcellus Shale. Dry natural gas production there has more than tripled in the past three years, from an average of 4.8 billion cubic feet per day in 2011 to an average of 14.6 billion cubic feet per day in 2014, according to the U.S. Energy Information Agency (EIA). In the past three years, oil production is up 250 percent in the Bakken Shales Field in the north-central U.S. In 2011, oil production averaged 0.4 million barrels per day. In 2014 it had increased to 1.1 million barrels per day, according to EIA data. It is not surprising that the local communities and states that have benefited most from such an unprecedented level and pace of production growth are driving some of the "sky is falling" response to the drop in global oil prices. Consider the impact on the sparsely populated state of North Dakota, which is part of one of the richest known shale formations in the world—the Bakken Shale Field. That field covers 200,000 square miles beneath two U.S. states and two Canadian provinces. Oil industry estimates of recoverable oil in the formation are as high as 24 billion barrels. The impact of the unconventional production explosion in North Dakota has been the equivalent of what the great Gold Rush was to California in the mid-1800s. The shale oil boom helped grow North Dakota's economy an astonishing 20 percent in 2012 and nearly 10 percent in 2014, even as most American states were still struggling to emerge from the economic recession that began in 2008. For the last five years, North Dakota has grown at the fastest rate of any state in the country. Towns of up to 15,000 inhabitants, populated by petroleum workers and other people from support industries, sprung up in a matter of months.

BETWEEN TRANSFORMING AND REBALANCING

So when Hess Corporation said it would cut the total number of its rigs in North Dakota's Bakken Shales Field by half because of falling oil prices, it was cause for panic in the region. Other headlines followed. France's Total S.A. announced a 10 percent reduction in capital investments, including in U.S. shale fields. →

Pioneer Natural Resources Co. of Irving, Texas, one of the largest U.S. independent producers, is looking at slashing its $1 billion plan to help clean and recycle the water used in its hydraulic fracking operations. The plunge in oil prices is drying up financing, particularly for small independent companies. Some firms are shuttering their more expensive wells, delaying completion of new wells and stalling new drilling projects. When Illinois recently approved hydraulic fracturing after a long regulatory process, only one company applied in the first two months.

A Deutsche Bank analysis added to the angst last December, projecting that U.S. shale producers "could be entering a zone of deep distress." Longer term projections for the healthy state of LTO have done little to quell the current sense of unease in U.S. communities that have become dependent on—and spoiled by—the phenomenal growth in unconventional oil and gas production and its corresponding tsunami of cash in recent years. To be sure, in many of these communities even seemingly small cutbacks can have a major impact on local communities and politics. American politicians wasted no time picking up on the gloom-and-doom scenarios. The states most highly dependent on the oil industry—especially the newer unconventional methods —are predicting multi-billion dollar budget shortfalls. Among those are Alaska, Texas, North Dakota, Oklahoma, New Mexico and Louisiana. State politicians are looking at revamping funding formulas and are threatening to cut services. One of the most prominent naysayers, Texas billionaire Ross Perot Jr., told CNN during the World Economic Forum in Davos, "I think the world will be shocked how quickly we [shut down unconventional production] within Texas." But memories can be short: Every oil and gas community in America has been through multiple boom and bust cycles. And the Ross Perots of the energy business are taking the shortest-term view, according to most analysts. Many experts note that the unconventional energy business is going through some of the same adjustments and rebalancing as more traditional sectors experienced in past price fluctuations. "Many companies have begun redirecting investment away from marginal exploration and research drilling and focusing on core areas of major tight oil plays," said John Staub, who heads the U.S. Energy Information Agency's Oil and Gas Exploration and Production Team. "Oil prices remain high enough to support some development drilling activity in 2015 in the Bakken, Eagle Ford, Niobrara, and Permian Basin, albeit lower than previously forecast. Companies that have lower drilling and debt costs and have acreage in the sweet spots of these regions will continue to drill highly productive wells in 2015." The EIA expects 2015 production to reach 9.4 million barrels a day in the second quarter, then decline by 190,000 barrels a day in the third quarter—hardly a catastrophic plunge. The EIA projects 2015 drilling activity will decline "because of unattractive economic returns in some areas of both emerging and mature oil production regions," according to Staub, adding that the forecast "remains particularly sensitive to actual prices available at the wellhead and drilling economics that vary across regions and operators." The International Energy Agency's projections are similar: "U.S. LTO is expected to remain a top source of incremental supply, with growth initially slowing to a trickle, but swiftly regaining momentum later on bringing production to a projected 5.2 million barrels per day by 2020. Although questions remain about the availability of capital to LTO producers on the rebound, on balance LTO investment cutbacks are not expected to have as long-lasting impact as other spending cuts." The IAE also said LTO's game changing status isn't just a matter of production volumes. "LTO also looks set to stand out by its responsiveness to lower prices," the global energy agency said. "Its short lead and pay-back times, rapid well-level decline rates and treadmill-like investment requirements make it far more price elastic than conventional crude." American's unconventional energy boom has also had major geopolitical ramifications that will likely be amplified even more in the coming years.



The United States, Canada, China, and Argentina are currently the only four countries in the world that are producing commercial volumes of either natural gas from shale formations (shale gas) or crude oil from tight formations (tight oil). The United States is by far the dominant producer of both shale gas and tight oil.

THE TIPPING OF THE SCALES? LIGHT TIGHT OIL AND DEMAND

> An unexpected consequence of the North American supply revolution is thus to have effectively undercut, if not overturned, traditional OPEC and non-OPEC roles

Global analysts suggest that OPEC's historic decision not to cut production at its November 2014 meeting has turned LTO into a critical balancing factor. The IEA noted, "While it is not exactly unprecedented for the producer group to leave it to others to balance the market, one has to go as far back as 1986 for a prior and single example of such a move. "An unexpected consequence of the North American supply revolution is thus to have effectively undercut, if not overturned, traditional OPEC and non-OPEC roles." But there is another crucial factor at play in the geopolitics of oil prices: demand. In fact, these days, the market itself may be having a greater impact on oil prices than any OPEC or other policy decisions. Global demand and the role of oil in the international fuel mix are in the midst of historic shifts. A combination of weak world economies and greater efforts and technology to reduce energy consumption in everything from automobiles to light bulbs has reduced dramatically both the real and projected consumption of fossil fuels around the globe. China, the world's largest net importer of oil and once seen as having an insatiable fuel appetite, is projecting much slower growth than expected. The U.S. Department of Defense, one of the world's largest energy consumers, has seen its energy use drop to the lowest levels since 1975, according to the U.S. Department of Energy. With concerns over climate change—and the role of fossil fuels—at an all-time high, governments are imposing energy efficiency requirements and clamping down on the environmental impacts of fossil fuel at a record pace. Environmental restrictions could end up being a greater problem for U.S. unconventional oil and gas production than low oil prices. Most experts believe, however, that U.S. shale gas and tight oil production are energy game changers that will have a profound impact on global energy markets and geopolitics for decades to come. Any shakedown that occurs as a result of recent price drops or future leveling of prices is likely to strengthen, rather than cripple, this revolutionary phase of energy production. The new player at the table isn't likely to fold its cards any time soon. ■

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Molly Moore is a senior vice president of Sanderson Strategies Group, a Washington, D.C. media strategies firm, and a former *Washington Post* foreign correspondent.

India/The Asian giant has the opportunity to improve its monetary policy

New Delhi steps on the gas

Low oil prices have offered an unexpected "fifty billion dollar gift." But the longer low prices prevail, the more far-reaching and mixed the consequences could be for India and the whole of Asia

by JAMES CRABTREE

Indian central bank head Raghuram Rajan, like others in his profession, is hardly given to idle exaggerations. So when the Reserve Bank of India Governor recently described the current period of unusually low oil prices as handing India an unexpected "fifty billion dollar gift," his words gave a fair indication of the unexpected but almost entirely positive impact that plunging crude costs have had on his country's heavily energy import-dependent economy. Indeed, a prolonged spell in which oil prices hover around $50 would be good news not only for India, but also for most economies in Asia, the world's largest oil importing region. Inexpensive fuel means higher growth and lower import bills, helping to improve stretched current accounts. It helps both consumers and businesses, lowering input costs. But the benefit of lower fuel costs should count double in the case of countries like India, Indonesia and Pakistan, given that it also provides previously spendthrift governments with extra fiscal breathing room to introduce otherwise unpopular budgetary measures. The effects of major oil supply shocks often prove more double-edged than they at first appear, changing calculations across all industries and hitting oil producers and energy companies in particular. But only one Asian nation—Malaysia—is a major oil exporter. The region also accounts for 40 percent of the global oil trade, importing three quarters of Middle Eastern production alone, according to Chatham House. That level is set to increase: projections from the Asian Development Bank suggest that imports across the Asia-Pacific will hit 25 million barrels a day over the next two decades. Here, India's example is only one of the most extreme. Energy imports costs were $120bn in 2013, or more than 7 percent of gross domestic product, according to Goldman Sachs; this level that could rise as high as $230bn over the next decade. Put another →

THE AUTHOR. James Crabtree is the head of the *Financial Times'* Mumbai bureau, where he leads the paper's coverage of corporate India, having previously worked on the op-ed page as Comment Editor. Before joining the FT, Mr Crabtree was Deputy Editor at *Prospect*, Britain's leading monthly magazine of politics and ideas. Prior to returning to journalism, he worked as a policy advisor in the U.K. Prime Minister's Strategy Unit, and for various think tanks in Britain and America. He also spent a number of years living in the U.S., initially as a Fulbright Scholar at the Kennedy School of Government at Harvard University.

way, the investment bank calculates that, without energy imports, India would have run a current account surplus of close to 5 percent of GDP, rather than a persistent deficit. Energy imports are essential to the operation of an economy, and therefore not something that a country can easily do without. Nonetheless India's extensive reliance on energy imports — alongside its love of imported gold — provides a large part of the explanation for the plunge in its currency during late 2013, during a period of capital flight from major emerging markets. Today, lower oil prices may even help it to run a rare current account surplus later this year.

WHY OIL AT $50 BENEFITS ASIAN COUNTRIES

Import dependence in turns explains why some Asian nations, including India, benefit more than others from lower oil prices. "If you run a scenario of a $50 decline in oil prices and just look at what it takes off the cost of imports, the impact is clearly beneficial for most Asian countries, although some benefit more than others," says Catherine Mann, chief economist at the Organization for Economic Cooperation and Development. Larger economies like Japan or China — the world's biggest oil importer— get the most significant boost in absolute terms. But OECD data show Thailand among the largest beneficiaries in relative terms, enjoying a 4 percent GDP boost, with India not far behind at 3 percent. China, by comparison, gets just a modest 1 percent. More generally, lower prices should translate quickly into higher regional growth, with ADB figures suggesting that Asia's importing nations will enjoy an extra half a percentage point of GDP increases this year, assuming oil remains around $50. Economic theory also suggests falling prices will shift growth between oil consumers and producers, however, hence why India is doing especially well, and Malaysia has already cut back growth forecasts. In a region long troubled by runaway price increases, falling oil costs provides the second bonus curbing inflation, mostly by lowering the cost of oil-linked imports. In many western countries this sudden decrease in pricing pressures carries the risk of deflation. The same is true in Japan. But elsewhere around Asia, this easing is welcomed warmly by central bankers such as Mr. Rajan, as it allows for looser monetary policy. India unexpectedly cut interest rates in January, following a similar move by China late last year. Others are expected to follow. Yet the most striking potential beneficiaries from oil's recent plunge come in a third area,

OVERTAKING CHINA
India's GDP, according to the forecasts of the Ministry of Finance on the eve of the presentation of the budget for the fiscal year, will grow in 2015/2016 by at least 8.1 percent, although the figure could reach 8.5 percent, a net acceleration compared to the 7.4 percent achieved in the year 2014/2015. With these figures, India could overtake China to become the world's second largest economic power.

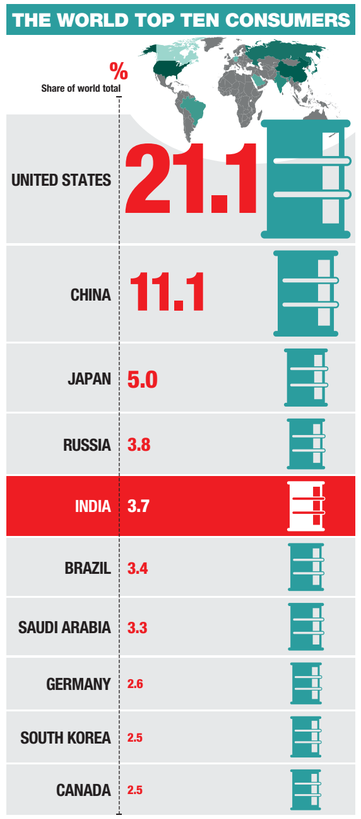
namely those willing to take advantage of price falls to kick-start wider economic reforms. "Oil at US$45 is a temporary phenomenon and we will see upward pressure towards the end of the year," Fatih Birol, chief economist at the IEA, said during a discussion at Davos in January. Oil exporters like Russia and Venezuela could not avoid being hit, he argued, but countries like India and Indonesia could gain an extra advantage if "they put effective policies in place while we have low prices." In particular, lower prices provide what ADB chief economist Shang-Jin Wei describes as a "golden opportunity" to shake up bloated oil subsidy regimes, without hurting poorer consumers by increasing fuel prices. Net oil importers like India and Indonesia have long constructed complex and costly price support mechanisms to cushion poorer residents from movements in oil prices, providing cheap access to essential fuels for cooking and heating but at the cost of market distortions and higher fiscal deficits. Sensing their opportunity, both countries have already moved to trim fuel-related price controls, with India scrapping diesel controls entirely at the end of 2014. Changes to controls in other oil-based products, such as fertilizers, are now also possible.

A CHANCE TO ORGANIZE BUDGETS AND FUND INVESTMENTS

Even without such reforms, the simple reduction to existing subsidy bills will help governments around Asia balance their books, potentially in turn funding other investments. The OECD's calculations put India's windfall at roughly $70bn, higher even that Mr Rajan's estimated "gift." Either way, that gift has allowed Prime Minister Narendra Modi to meet a tough fiscal deficit target for this financial year much more easily than would otherwise have been the case. Policy makers in New Delhi also now have extra headroom to fund a planned program of increased public infrastructure investment, helping Asia's third largest economy to recover from its recent slowdown in growth. "Gains from lower crude oil prices are partially likely to translate into a higher boost for public investment," wrote analyst Anubhuti Sahay in a recent report for Standard Chartered. "We expect higher budgetary allocations towards sectors like roads, rural development and power distribution."

For all that, the ultimate beneficiaries from lower oil prices should still be Asia's consumers and companies, who will enjoy both the indirect effects of higher economic growth, as well as specific reductions ranging from lower petrol prices for drivers to reduced input costs for fuel-hungry businesses. Yet subsidies can play a role here as well, according to Catherine Mann of the OECD, with some governments being more generous than others. "For consumers, the degree of pass through for transport costs, for instance, is entirely dependent on how controlled the market is," she explains. "In the U.S., where the pass through is rapid and complete, a consumer should benefit to the tune $1000 a year." In countries such as China, where fuel prices are carefully controlled, reductions are only partially passed on.

The outlook for Asia's oil explorers, of course, is less rosy. Over recent months, global energy majors have begun to slash capital spending, put projects on hold and cut staff numbers, all in preparation for what many fear may be an extended period of weak prices. More complex and expensive energy development projects, such as those involving American shale gas, have been especially badly hit — a fact that many analysts say was precisely the point behind moves by Saudi Arabia and other OPEC members to avoid throttling back production last year. Although it is yet to be felt as severely, a comparable pattern of belt-tightening is beginning around Asia. Regional explorers have suffered sharp share prices corrections since oil prices began falling in the middle of 2014. Some state-backed oil giants in countries like Malaysia and Indonesia announced capital expenditure reductions last year. Cnooc, one of China's largest producers, did the same in early February. Rating agency Standard & Poor's says further downgrades of Asian oil explorers will follow if prices remain subdued in 2015, in which case producers are sure to scrap or delay more investment projects. Yet if prices do begin gradually to recover, as many analysts predict, it is at least conceivable that Asia's oil companies will prove more resilient to the types of retrenchment currently being forced on their global counterparts. Most oil production around the region is relatively low cost and not terribly complicated, and therefore remains economically viable even at lower price levels. "The largely conventional upstream projects of... Asian oil companies provide them with additional flexibility in today's low oil price environment," says Fitch, a credit ratings agency. Many of Asia's largest explorers, such as Cnooc or Malaysia's Petronas, are also publicly owned, with sizeable cash reserves to help them weather harder times. In some Asian countries, the impact of lower prices could also be mitigated by state interventions of a different sort. In India, for instance, state-backed oil businesses such as Oil and Natural Gas Corporation, the country's largest explorer, have long been used as a source of extra government revenues. New Delhi, rather than the company itself, would tend to enjoy the benefits of extra revenues when oil nosed over $100. Most projects in which the company invests therefore are developed on the assumption that the company will receive the equivalent of low oil prices — given this is all the company itself would receive — and they are therefore unlikely to have to curb their spending plans substantially in the short term.



India is among those countries most dependent on imported energy, relying on foreign suppliers to meet most of its demand. As the graph shows, it is the world's fifth biggest consumer of oil.

Source: Eni, Oil & Gas Review 2014

WHAT HAPPENS IF WE ENTER A NEW AGE OF CHEAP OIL

These cushions are, of course, only temporary. Much depends on where prices now move. Analysts at Credit Suisse suggest a gradual recovery is likely, reaching an estimated $71 a barrel by the end of the next financial year, and then hovering around $80 for the two years after that. Such projections are fraught, not least given that so few industry experts saw the price slump coming. But if they prove to be roughly accurate, and thus the recent slump proves to be largely temporary, Asian producers could pass through the storm more easily than most. Others are more sanguine though, not least the IEA, whose most recent Oil Market Report questioned the consensus of a gradual reversion to higher prices, citing long-planned new production that would soon work its way into the global oil system. "Supplies so far remain abundant, and it will take time for investment cuts to make more than a relatively small dent on production," the organization says. "In the meantime, inventories are likely to build further... downward market pressures may not have run their course just yet." Such warnings do not necessarily imply a new era of ultra-cheap oil in the vein of the $20 scenario floated by analysts at Citigroup in January. But any longer period of lower prices could have far-reaching consequences across Asia. If cheaper oil signals an expected weakness in global demand, for instance, rather than tightness in supply, it would clearly have negative implications for Asia's major exporters, with countries like China suffering if America and Europe slowed down. Recent forecasts from the World Bank and the International Monetary Fund have lowered global growth forecasts for this year despite lower oil prices, hinting that this scenario is at least possible. More directly, and perhaps most significantly, an era of cheaper oil would create dilemmas as nations across developing Asia race to modernize their energy infrastructure, potentially undermining moves to develop renewable energy. India, already one of the world's most energy import dependent large economies, has belated launched extensive plans for new solar farms and wind-power plants, part of wider plans to wean the country's development path away from an excessive reliance on fossil fuels. Seen this way, cheap oil could be a temptation that India and other countries might eventually come to regret. ■

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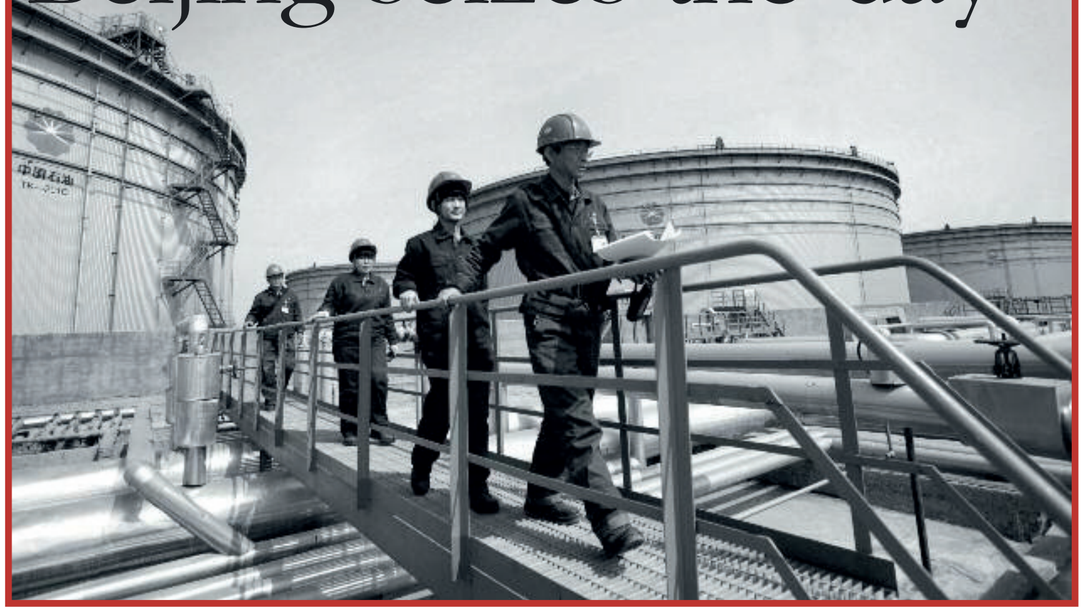
China/The strategic response of a large importing country

Beijing seizes the day



The collapse of oil prices gives the Dragon a strong hand in its negotiations with producing countries such as Russia and a powerful lever for domestic growth. But it will require a strategic approach

by LI LIFAN

From January 28th 2015, the Brent price increased over the course of a week, rising to $57.28 per barrel on February 3rd from $48.46 on January 28th. Statistics show that as of January 31st, the U.S. had closed down 94 oil drilling platforms, suggesting a decrease of oil production. Thereafter, the price of oil rapidly picked up. It can be assumed that the U.S. industry probably pays the bill for the slump of the oil price.

ANALYSIS OF MARKETS AND FUTURE TRENDS

If we think of crude oil as a financial investment, it's easy to see why oil prices fell from $103 per barrel in the middle of 2014 to roughly $45 in the beginning of 2015. As a financial product, oil price fluctuation cannot be explained by the relationship of supply and demand, or by factors such as production cost or market competition. Instead, we must look at the oil market's expectation of long-term oversupply.

From 1970, oil price has witnessed slumps involving a 50 percent price cut in a short period of time six times. Only one, that of the mid-1980s, was similar to this one in regard to reflecting a long-term expectation of over-supply. In the fall between 1985-1986, the oil price dropped 67 percent in the space of 4 months. If the oil price does so this time, the current price is far from the floor, which was below $40 per barrel. Therefore, the present rebound is only temporary and the oil price will sustain at a low price for a long time.

Generally speaking, he fall of the price of oil will "in turn" strike the international market and economies around the world.

The first group of countries feeling the impact are the oil producing countries like Russia, Venezuela and those in Middle East and Central Asia. As resource export-oriented economies, these countries' economic futures connect closely with the fluctuation of the price of oil. In the end of 2014, Central Bank of Russia raised the benchmark interest rate from 10.5 percent to 17 percent in order to contain the devaluation of the ruble as well as inflation and capital outflow. However, high interest rates will bring great pressure on its banking system and real economy, leading to an economic recession.

Developed economies in Europe and the U.S. will be the second group affected. The risk of Russian economic recession, made worse by sanctions launched by the E.U. and the U.S, will be an obstacle for the recovery of developed economies. Trade between the E.U. and Russia reached nearly 300 billion euros. An economic recession in Russia will cause losses for the E.U., whose trade will shrink, elevating the risk of internal deflation.

A long-term decline in oil prices will also impact the will to invest in shale gas, shale oil and traditional petroleum in the U.S., which in turn may lead to layoffs in oil refineries in the central and western U.S.

The last group affected will be developing countries like China and India. From a short-term perspective, the low oil price will raise the growth rate of GDP and cut inflation in China, while broadening the opportunity for financial and monetary policies. However, from a long-term perspective, cheap oil will influence the economic interests of the developing countries through trade, international capital flow and economic confidence. The space for energy structure reform will be compressed, affecting energy saving and emission reducing plans in China and India. In addition, the overseas profit of large Chinese oil companies will be decreased and their negative assets increased.

OIL UNION BETWEEN CHINA AND RUSSIA

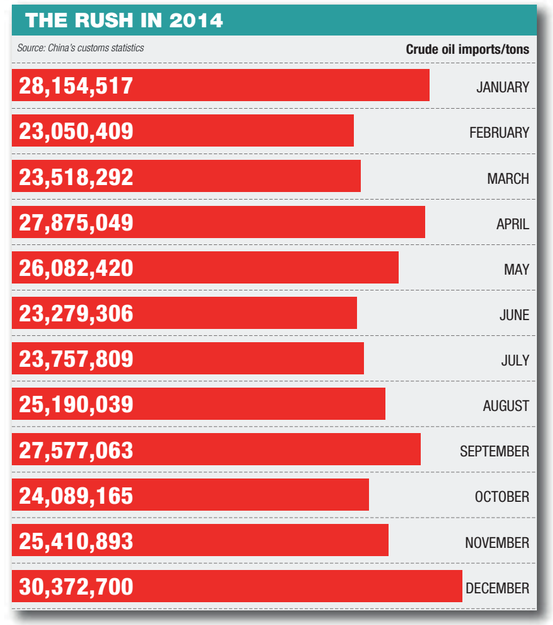
The fall of the price of oil will spur energy cooperation between China and Russia. Comprehensive cooperation in both upstream and downstream areas will enhance the importation of oil and gas, increasing strategic reserves.

In December 2014, China imported 3.72 million tons of crude oil from Russia, an increase of 86 percent from the previous month, according to Chinese customs department data.. Imports from Saudi Arabia increased 13% compared to the same period of the last year, following a two-month fall. Saudi Arabia, the largest crude oil supplying country for China, exported 49.7 million tons of oil to China in 2014, while the next largest supplier, Russia, exported 33.1 million tons. It is expected that Russia will become the second largest oil supplying country for China in 2015, reaching exports of 45 million tons.

China made a rare statement at the end of 2014 claiming that the first phase target of its national plan to build strategic oil reserves has been achieved, and that the second, involving another 170 million barrels of oil, will be reached before 2020. Declines in prices have reduced the cost of this effort accordingly. If China had imported crude oil at $70 per barrel in Dec 2014, the cost saved would have been 30 percent cheaper compared with the price in June 2014, which was $103 per barrel.

China's increasing importation of crude oil has not raised the international oil price, which is influenced more by statistics from western oil companies and strikes in the U.S. oil industry. China's share of international energy companies is relatively small, leading to little price setting ability and a weak capability to financialize oil products. China should enhance the development and investment of oil-related financial products. Treating oil as financial investment will break the short-term supply-demand fluctuation. When the expectation increases, the oil price will rise; when the expectation decreases, the price will fall further. In this way, a large amount of foreign currency can be saved while importing crude oil.

The falling price of oil means negotiating chips for China with oil-producing countries and its best opportunity to push internal economic growth. The government has been forced to formulate a series of integral systems. Whether in oil import price negotiation or in internal interests sharing, the government should establish a sharing system for citizens, enhancing consumption and economic growth.



China's crude oil imports totaled 308,374,104 tons in 2014, up from 26,421,898 tons in 2013, an increase of 9.4%, the largest single-year growth in history. In 2013 Chinese imports of crude oil was 281,952,206 tons, an increase of 4.03% from 2012. In 2013, the cost of purchasing crude oil was $787.37/ton, equivalent to $107.42/barrel; In 2014 the cost of purchasing crude oil fell to $739.65/ton, equivalent to $100.91/barrel.

A POSSIBLE STRATEGY IN THE NEXT YEARS

The rising dollar and the falling prices of oil and other materials offer a great advantage to manufacturing giants like China, which holds significant foreign currency reserves. A retrospective look at the historical relation between the dollar and oil prices reveals only a temporary advantage. Within the last ten years, the devaluation of the dollar has brought serious losses to China's foreign currency reserves. China should take the lesson of Russia, realizing that the price of oil will stay low while rebounding in the short term. Energy risk management should focus on the establishment of energy financial products and understand the fluctuation of the market to broaden energy reserves. The following strategies can be considered in the near future:

- The Oil Union between China and Russia should be strengthened and the Energy Club among China, Russia, Iran and Central Asia enhanced. The cooperation between China and Russia has many means, including trading market with energy or exchange the upstream with downstream production. Western sanctions against Russia provided new opportunities for Chinese companies to gain a share of service and equipment companies in the Russian market previously held by western countries. The "going-out" of middle and small sized Chinese companies should be encouraged.
- The diversification of energy consumption should be continued and the development of non-conventional energy encouraged. The fall of the price of oil has meant tremendous pressure for the three oil giants (CNPC, Sinopec, and SNOOC) to increase their performance. Their enormous investment in overseas exploration will bring. But the low price will bring more consumption, meaning the country can consider increasing management measures, using the consumption tax to subsidize the development of new and non-conventional energy. The growth of electric automobiles can also be encouraged as part of this effort to ensure energy diversification.
- Market risk management should be enhanced. With crude oil futures trading listed in the Shanghai International Energy Trading Center, the types of bulk petroleum risk management market products are complete. However, due to the lack of development of risk management markets in financial investment, interest rate and foreign exchange futures should be added to solidify the market for various subjects facing hedge risks.
- Training of theories and techniques on hedging should be strengthened to reduce the misunderstanding of risk management on hedging. International experience shows that large companies take advantage of derivative products to manage daily business risk. Risk management measures like hedging are the key to keeping competitive. The futures industry, educational opportunities designed to improve knowledge of hedging should be encouraged.
- New economic growth areas should be explored to support the development of the oil industry. For oil companies, current expectations for new areas of growth are based on responses to the low price of oil rather than initiatives backed up by more comprehensive strategies. The future of the oil and gas industry is optimistic; conventional energy, including oil and gas,will continue to be our main energy source. Efforts to reduce pollution while enhancing economic opportunity will not result in overproduction for oil and gas. Therefore, investment should be managed strictly in fostering new growth areas. For industries with no proper future or over production, the entry should be cautiously made and the scale should be managed appropriately.

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Li Lifan is Associate Research Professor at the Shanghai Academy of Social Sciences and Secretary General of the Center for Shanghai Cooperation Organization Studies.

Iran/Seeking an alternative to excessive oil dependence

A country on the test bench

The losses suffered by Tehran due to the collapse of crude prices in 2014 could convince even the ayatollahs to endorse a nuclear deal to free the country from the burden of sanctions

by GIUSEPPE ACCONCIA

The Iranian authorities find themselves challenged by the sharp drop in oil prices in recent months. Sliding crude oil prices, which as of late-February hovered around $50 per barrel, have to date resulted in a loss of $100 billion for the Iranian economy, according to Mohsen Rezaei, Secretary of the Council for Conflict Resolution. For Oil Minister Bijan Namdar Zanganeh, there is no doubt that this is a political conspiracy by the United States and Saudi Arabia to hurt the Iranian and Russian economies. But Hassan Rouhani's moderates are focused elsewhere, placing their bets on resolving the nuclear dispute to balance out the country's declining oil revenues.

NUCLEAR TALKS AND INTERNATIONAL SANCTIONS

The oil issue and the resolution of the nuclear dispute are closely intertwined. After reaching an interim agreement last November in Geneva, talks to reach a nuclear agreement resumed between Iran and the five permanent members of the Security Council plus Germany (P5+1) in Switzerland. U.S. Secretary of State John Kerry had a long meeting with Iranian Minister of Foreign Affairs Javad Zarif. Yet, the U.S. Congress is allegedly ready to approve new sanctions against Iran, which could put an end to negotiations. However, President Obama has stated that he is ready to veto the new sanctions proposed by the Republican majority Congress to intensify measures against Tehran, which were tightened in 2013. In a National Public Radio (NPR) interview last December, Obama did not rule out the possibility of the United States re-opening its embassy in Iran. Relations could be renewed in the wake of indirect cooperation between the two arch "enemies" in the fight against Islamic State (ISIS) jihadis in Iraq and due to the pragmatism demonstrated by Iran in managing the Afghan crisis. If the P5+1 negotiators work to quickly close talks that can finally resolve the nuclear issue with Iran, Iranian conservatives and radicals could put negotiations in jeopardy. The Iranian establishment has been able to get around the sanctions and do business thanks to international measures that were especially burdensome for the Iranian people, who have faced unprecedented levels of inflation. Yet, in a speech at the air force base, Ayatollah Ali Khamenei finally declared that he supports an agreement, though with a qualification: "I agree with a feasible deal but not with a bad deal. No agreement is better than an agreement that will damage our national interests," Khamenei affirmed. He also added that the accord should arrive in just one phase and not two, as is established in the latest drafts of the agreement.

The ayatollahs fear the possibility of an agreement to reduce uranium enrichment to 5% that does not bring an immediate end to sanctions. Radical Ayatollah Ahmad Khatami has made this point, harshly criticizing Zarif's diplomatic push to enter into an agreement by the end of March. But a final draft of the agreement is allegedly already complete and under review by the negotiators. To slow things down, Iranian authorities have announced that the missile program is a non-negotiable matter. This according to Deputy Minister of Foreign Affairs Abbas Araqchi, who was responding to a statement made by a U.S. State Department spokesperson Jen Psaki regarding the launch of the Iranian satellite Fajr. According to Psaki, the Iranian ballistic missile program is on the negotiating table during the nuclear talks between Iran and the P5+1. This claim has been refuted by Araqchi, who stated that the missile program "has a completely defensive nature and the Islamic Republic of Iran does not regard the country's defense issues as negotiable."

CONSEQUENCES FOR IRANIAN ECONOMIC POLICY

The repeal of international sanctions could have immediately positive effects on the Iranian economy. Harvard historian Roger Edward Owen notes that "President Hassan Rouhani is trying to balance growing inflation with the withdrawal of international sanctions." According to Owen, while the revolutionary guards can withstand low oil prices, "it is the ordinary people who will bear the brunt of it all." Owen acknowledges that Iran has a "technically excellent army" and that a conflict would cause the price of oil to rise, but ultimately believes that "at the moment a war would not be in anyone's interest."

According to Professor Riccardo Redaelli of Catholic University of the Sacred Heart in Milan, the Iranian economy will ultimately be able to adapt to falling oil prices. "The fall in oil prices has had a significant impact on the Iranian economy, but it depends on how long it will last," Redaelli notes. "However, the fall in oil prices will increase efforts to try and restructure the Iranian economy to make it less dependent on oil. This is because Iran is only partly a rentier state: it has a strong civil structure and it has already tried to diversify its economy," the professor states. And, in the long term, the abundant state aid that has allowed the Islamic Republic to stay afloat over the last thirty-six years could falter precisely due to falling oil prices. "In the last years of Ahmadinejad's presidency, huge quantities of money were wasted by distributing the surplus from oil sales to citizens," Redaelli adds. "This gave rise to the main tensions within the government, which is attempting to streamline public spending by reducing subsidies. But this effort has extremely negative effects for the middle and lower classes," the professor explains.

CHINESE, JAPANESE AND RUSSIAN INVESTMENT AND IRANIAN FOREIGN POLICY

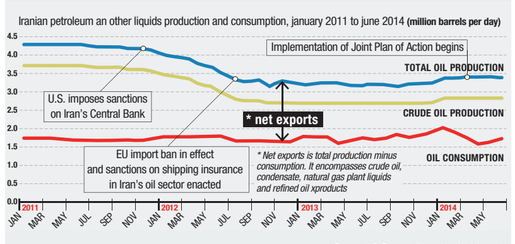
Meanwhile, the Islamic Republic's diplomatic efforts after years of isolation are clearly opposed first and foremost by the Israeli government, as well as by the Saudi monarchy. Indeed, it did not take long for the Iranian Revolutionary Guards to react to the killing of General Mohammed Ali Allahdadi following the Israeli raid in →

THE AUTHOR. Giuseppe Acconcia is a journalist for *Il Manifesto* and researcher for the Bocconi and London Universities. He has also written for *The Independent*, *Al-Ahram Weekly*, and Xinhua News Agency. He has published essays for Il Mulino, *The International Spectator* and *LeMonde Diplomatique*. He is author of the book "Egypt. Military Democracy" (Exorma, 2014).

Quneitra, Syria last January, which cost 12 people their lives, including members of the Lebanese Shiite movement Hezbollah. Despite the attack, Iranian Brigadier General Hossein Valivand underscored Tehran's continued strategic commitment to supporting the regular Iraqi army. But the antagonism between Tehran and Riyadh will not subside even with the death of Saudi King Abdullah. "The new Saudi monarch Salman, one of the monarchy's hawks, could soon declare that he does not want Iran to continue its nuclear program at all, which will be seriously detrimental to the talks under way in Geneva," Owen comments. In addition, although many highlight Iran's central role in the crisis in Yemen, with the advance of the Houthis toward Sana'a, Tehran appears to be trying to stay out of that conflict. "In Yemen, the Iranians are being very cautious, and they do not intend to intervene, since their sole objective is a nuclear agreement and the withdrawal of sanctions," Owen continues.

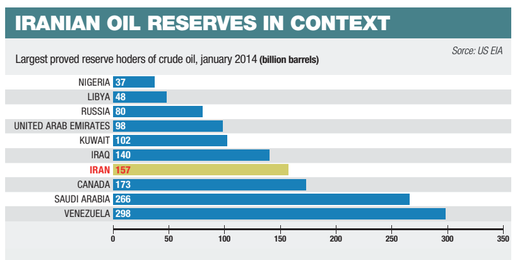
While regional crises worsen and the effects of declining oil prices are felt in the Iranian economy, funding for projects in the oil market has been at a standstill for the past year, and Iranian industry operators are now looking abroad to attract new investment. This is why the National Gas Company has started negotiations with Japan's Mitsubishi Engineering and Energy and the South Korean companies Samsung and LG for the construction of new refineries and pipelines in Iran. Deputy Head of the National Iranian Oil Refining and Distribution Company (NIORDC) Shahrokh Khosravani has also announced a deal made with Chinese authorities to provide financing for one of the country's largest refineries. In view of extended nuclear talks, following energy agreements with Moscow, Tehran is further strengthening the axis with Vladimir Putin's Russia. The military cooperation agreement signed in Iran in January 2015 provides for greater cooperation in the fight against terrorism, the exchange of military personnel for exercises and increased reciprocal use of ports. "It is true that China is now one of the main investors in Iran. However, Iranians do not like Chinese technology, which is often of lower quality than Western technology. Iran is also adopting a "wait and see" policy with regard to the mega agreements proposed by Russia because they are often especially favorable for Moscow," Redaelli concludes.

THE CONSEQUENCES OF SANCTIONS



Following the implementation of sanctions in late-2011 and mid-2012, in accordance with the European Union, Iranian production dropped dramatically. The U.S. and EU measures targeted Iran's petroleum exports and imports, prohibited large-scale investment in the country's oil and gas sector, and cut off Iran's access to European and U.S. sources for financial transactions.

IRANIAN OIL RESERVES IN CONTEXT



Iran holds nearly 10% of the world's crude oil reserves and 13% of OPEC reserves. About 70% of Iran's crude oil reserves are located onshore, with the remainder mostly located offshore in the Persian Gulf. Iran also holds proved reserves in the Caspian Sea, although exploration has been at a standstill.

LIMITS IMPOSED ON REFORMS BY CONSERVATIVE CLERICS

Reformists are bearing the brunt of this political, economic and diplomatic standstill. Although technocrat President Hassan Rouhani has often promised new space for Iranian civil society, the results so far have been extremely limited. The two reformist leaders Mehdi Karroubi and Mir-Hossein Mousavi, accused of inciting anti-government protests in 2011, remain under house arrest, and repression of the reformist movement continues. The moderate Rouhani had promised greater freedom in universities, favoring the return of directors accused of involvement in anti-government protests. In reality, Iranian universities have been swept up in new protests, after those in 2009 against the re-election of former President Mahmoud Ahmadinejad. This time, young Iranians object to accusations made by the Chief Editor of the conservative newspaper Kayhan. In a speech at the University of Tehran, Hossein Shariatmadari accused reformist leaders of convincing the West to impose the sanctions against Iran.. The protestors demanded the liberation of Mir-Hossein Mousavi and accused the Kayhan editor of making false accusations. Former military officer Ezzatollah Zarghami also harshly criticized Mousavi, branded as the most dangerous leader of the anti-Ahmadinejad protest movement.

Conservative clerics have put up a strong opposition to the opening promised by Rouhani. And the new reformist Neda Party (which in Persian refers to the "Second generation of reformists"), approved by the Ministry of Interior in early December, has been the target of arrests and threats. The group, led by Sadegh Kharazi, a veteran diplomat and advisor to Mohammad Khatami, has a 12-member founding board and close ties to the young reformists and politicians of the Islamic Iran Participation Front, the movement founded by the former president. Kharazi often referred to the group's participation in coming Parliamentary elections and its goal of gaining middle-class votes to fill the gap left by limits imposed on Iranian reformists after 2011. For their part, the Iranian authorities ordered the arrest of three Neda Party members. The spokesperson of the new reformist group, Hassan Younessi, has denied any connection between the arrests and the party's activities, and has emphasized that Neda operates within the law. But the group ran into troubles after Iranian Revolutionary Guard Commander Gholamhossein Gheybparva called the reformists "impure" and accused member of Parliament Ali Motaharri of protecting imprisoned reformist leaders. On the positive side for reformers, many members of Parliament have denounced the decline in freedom of expression since June 2013, when Rouhani was elected. The reformist newspaper Mardom-e Emrooz was shut down, while 12 internet users were arrested and 24 were summoned before the court in an operation that resulted in the censorship of 350 Facebook pages, 130 of which were closed. Still, for the conservative press, this was a crackdown "against the spreading of corruption, which aims to undermine the stability of Iranian families." And conservative lawmakers are working on a bill to prevent reformist journalists from working at other newspapers once their own publication is shuttered.

Reformist politicians met again in recent weeks, for the first time since 2009, to prepare their electoral campaign for next year's Parliamentary elections. According to many political commentators, Iranian reformists could once again obtain a majority in Parliament, paving the way for a new season of change for the country.The Iranian authorities are facing the economic consequences of international sanctions as well as dropping oil prices. In the long term, this could weaken the moderate leadership, which won elections in 2013 after two terms of the radical Mahmoud Ahmadinejad. In a scenario in which Iranian foreign policy is central to solving the main regional crises from Iraq to Afghanistan, the axis with Russia, China and Japan is seen as the most plausible antidote and favors new investment in the Iranian oil market. But only a solution to the nuclear dispute will give credibility to the economic policy of moderate President Hassan Rouhani and hope to the aspirations of Iranian civil society.

ABO About Oil

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Russia/The struggle to return to growth

A race against time

A weak ruble, sanctions and the structural problems of a heavily oil-dependent economy require Moscow to launch a plan of reforms to ward off the risk of recession

by EVGENY UTKIN

In January/February 2014, Russian Urals oil averaged $106.9 per barrel. By the same period of 2015, it had dropped to $51.81 per barrel, a decline of more than half. Although trends are currently positive (from January to February the average Urals price rose from $46.58 to $57.30 per barrel), it is difficult to forecast what the average price of oil will be in the coming months. Some believe that it could drop to $20, while others forecast a rally to $100 per barrel this year. Forecasts change from month to month, and developing a reliable prediction seems to be an impossible task.

However, it is necessary to pay close attention to Russia, where the price of oil is fundamental for the entire economy as well as for the state budget.

Although the energy industry accounts for only 20 percent of Moscow's national GDP, in 2014, over half of federal budget revenues came from the oil and gas industry.

THE RUBLE AND OIL: AN INSEPARABLE UNION

This strong dependence has sparked several crises over the years, especially in the period between 1986 and 1988, and again in 1998, when reduced crude oil prices caused Russia's GDP to decline by 8 percent, and the ruble came out three times weaker. At the time, Russia had heavy debt and reduced reserves. Now, the economic situation is decidedly better, public debt is extremely limited and the stability fund is abundant. However, the geopolitical situation is very different. The conflict in →

THE AUTHOR. Evgeny Utkin is an economist and geostrategic expert, especially in energy issues. Director of Partner N1, he collaborates with several Italian newspapers (RBTH insert of *La Repubblica*, *Panorama*, *Formiche*, East and others) and foreign newspapers (Expert). In the past he worked as a researcher at Moscow State University, before becoming manager for intergovernmental and international companies such as Eutelsat and Ericsson.

TALKING ABOUT ENERGY AND THE UKRAINE CRISIS. Russian President Vladimir Putin met with Energy Minister Alexander Novak in the residence of Novo-Ogaryovo, to talk about the energy sector generally and with regard to the Ukraine crisis.

Ukraine has caused the U.S. and Europe to impose sanctions, against which Moscow has imposed counter-sanctions in a tit-for-tat process with economic consequences that have heavily impacted both Russia and Europe. On December 16, 2014, Russia lived through the psychodrama of "Black Tuesday." The price of oil slid to below $60 per barrel, triggering a collapse in the ruble compared to the dollar (80 rubles per dollar) as well as the euro (100 rubles per euro). In just a few hours, the Russian currency lost half of its value. All of this was the result of a combination of many negative factors, both internal and external. The night between Monday December 15 and Tuesday December 16, after the ruble crash, the head of the Central Bank of Russia, Elvira Nabiullina, raised the main interest rate by 6.5 percentage points from 10.5 percent to 17 percent, with the aim of preventing account holders from rushing to make withdrawals and the conversion of deposits into foreign currency. In reality, this move only generated panic in the markets. Lastly, with the addition of the excellent transactions of financial speculators combined with the punctual announcement on the tightening of sanctions by U.S. President Barack Obama, the deal was done. Afterwards, the ruble managed to regain strength, reaching around 60 rubles per dollar, without losing excessive value even when oil prices reached $45 per barrel. These stabilization maneuvers obviously cost Russia many billions from its Reserve Fund. Russia established the Stabilization Fund, one of the primary public funds, in 2003. On February 1, 2008, this fund was divided into the Reserve Fund and the National Welfare Fund. The Reserve Fund is used to offset social spending and pay off foreign debt. The National Welfare Fund is used to finance the payment of pensions.

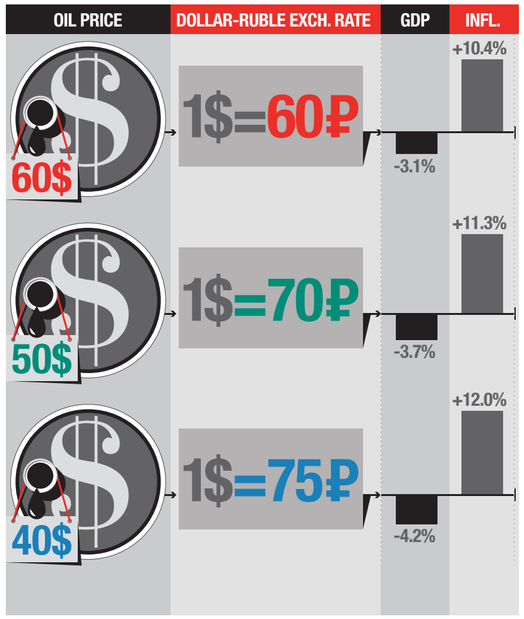
COMPLEX FORECASTS REGARDING GDP AND INFLATION

According to Ministry of Finance data, in early 2015 the Reserve Fund, which mainly contains foreign currency, held roughly 5,350 billion rubles (or $85 billion). At the beginning of February, this amount had increased to 5860 billion rubles, taking into account that the Russian currency had weakened by 13 percent compared to the dollar. On December 26, Minister of Finance Anton Siluanov announced his forecasts for 2015, establishing a base oil price of $60 per barrel and an exchange rate of around 51 rubles to the dollar. This exchange rate corresponds to the balance of payments, with the calculation of capital outflow and influx forecasts. "If oil prices remain at $60 per barrel, the ruble will regain its balance. We will not return to 30 rubles per dollar, but the most important thing is a stable ruble," Siluanov stated. In his opinion, in these conditions inflation would reach 10 percent in 2015, while GDP would decrease by 4 percent. In early December, the Russian Ministry of Economic Development established $80 per barrel as the base oil price and estimated a 0.8 percent decline in GDP. In late January, the ministry revised its forecast for the second time since the adoption of the 2015 appropriation law: structural economic issues, the worsening conflict in Ukraine, sanctions against Russia and falling oil prices drove the ministry to apply a dramatic downward revision across all of the country's main development indicators. Minister of Economic Development Alexey Ulyukaev believes that annual inflation could reach a peak of 17 percent in April, to later settle at around 11-12 percent toward the end of the year. Taking into account this decline, according to the minister, there would be no problem if inflation exceeded the main interest rate by more than 2 percent in April. "The important thing is that we and the Central Bank forecast that inflation will lower to 12 percent on an annual basis," Ulyukaev noted.

THE GUARANTEE OF THE RESERVE FUND

In an attempt to avoid inflation, the Russian Central Bank lowered the main interest rate by two percentage points to 15 percent on January 30. But it is more than likely that with time, the rate will decrease again, since maintaining inflation with these rates is nearly impossible. In addition, many businesses work with profitability of 8 percent, so for them applying for bank loans is unappealing or even impossible. The most recent estimates published in March provide yet other numbers. According to them, the Ministry of Finance is estimating an average annual oil price of $50 per barrel in 2015, $65 in 2016 and $70 in 2017-2018. On the basis of these assumptions, the budget deficit will stand at 3.8 percent of GDP in 2015, or 2,760 billion rubles. In 2016, the deficit will decline to 1.2 percent of GDP, or 994 billion rubles, while in 2017 there is expected to be no budget deficit. According to the Ministry of Finance, 3,670 billion rubles will be used from the Reserve Fund in 2015, reducing that Fund by two-thirds: from 5,347 billion rubles (with an estimated 402 billion rubles deriving from additional oil and gas industry revenues, to be credited to the fund by October 1) to 1,677 billion rubles. In 2016, it will be necessary to spend 1,158 billion rubles from the Reserve Fund, which will therefore drop to 519.3 billion rubles. In 2017, the Reserve Fund will grow by 111 billion rubles, reaching 630.3 billion rubles in early 2018.

In 2013, capital flight from Russia reached around $61 billion, and in 2014 this estimate rose to $151.5 billion, 2.5 times more than the amount recorded in 2013. Minister of Finance Anton Siluanov had initially estimated an outflow of capital of $120-130 billion in 2015, and only recently improved this forecast to $90-100 billion. Meanwhile, the Bank of Russia forecasts capital outflows of $118 billion in 2015, decreasing to $75 billion in 2016 and $53 billion in 2017. Independent experts are also in agreement on the figures. They forecast that GDP could shrink by 3-4 percent in 2015. For every $1 drop in the average annual oil price, the Russian budget loses around $2.2 billion, GDP drops by 0.10 percent and the population loses 0.14 percent of its income. When oil prices slide, the ruble drops; when they rise, the ruble strengthens. However, there is a certain delay: while the ruble follows in the footsteps of rising oil prices, it does so more slowly. For example, oil fluctuated from $60 to $45 per barrel and vice versa, but the ruble did not return to its previous values. And even now the dollar costs approximately 10 rubles more than was forecast by the Russian Finance Minister.



THREE ECONOMIC SCENARIOS
The Russian economy's extreme dependence on oil is shown in forecasts developed by the Russian investment company Region, according to which changes in oil prices per barrel in the coming months (left column) will impact GDP trends, the value of the ruble compared to the dollar and inflation in 2015.

THE DILEMMA OF INTERNATIONAL SANCTIONS

At a seminar on economic relations and industrial cooperation between Italy and Russia entitled "Opportunity despite the crisis" held in Milan on February 26, Valery Vaisberg, head of research at the "Region" group of companies, spoke about Russia's dependence on oil prices. In his view, if the price were $40 per barrel, Russia's GDP would shrink by 4.2 percent and the dollar would cost 75 rubles, with inflation at 12 percent. With the price of crude oil at $50, GDP would lose 3.7 percent, the dollar would cost 70 rubles and inflation would reach 11.3 percent. And, with the oil price at $60, these same figures would amount to 3.1 percent, 60 rubles and 10.3 percent. According to Vaisberg, the most likely scenario for 2015 is $50 per barrel, or in any event somewhere between $50 and $60. On the other hand, Morgan Stanley increased its prediction on Russian inflation from 13.7 percent to 17.5 percent, due to the expectation of a deep economic divide in Russia. According to the Morgan Stanley analysis, Russian GDP will decrease by up to 5.6 percent.

Hard times are ahead, at least for the next two years, and especially if the system of sanctions remains unaltered. Restrictions on banks and on the possibility of obtaining loans abroad for Russian state companies has resulted in a cash shortage and made it necessary to draw upon reserve fund money, which should not be exhausted in two years. The government has developed an "anti-crisis" program that provides aid to banks and the agricultural sector (indeed, the lack of European agricultural products is not being felt thanks to an increase in local products and those from countries that are not applying the sanctions against Russia). It also provides for a reduction in spending by 771 billion rubles in 2015 alone. One of the latest examples of this was Vladimir Putin's decision to cut the salaries of the Kremlin's presidential staff by 10 percent.

Russian oil may not be the cheapest to extract, but extraction is cheaper there than in many other places in the world. At the Eurasian Forum in Verona on October 23-24, 2014, Igor Sechin, president of Rosneft, stated that for Rosneft, the cost of extracting crude oil is much lower than for many other companies worldwide. In the end, at least Rosneft will withstand the crisis of the low price of black gold.

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Algeria/The future of a country heavily dependent on the hydrocarbon sector

The threat of a poss ible crisis

The country face three major challenges: excessive public spending, an ineffectual national energy policy and growing distrust in government policies. An informed public debate is needed

by ALI AISSAOUI

Prime Minister Abdelmalek Sellal's ominous statement early this year that Algeria "faces a crisis" does not bode well for the nation's outlook. He and his government seem suddenly to have woken up to the real dimensions of the global oil market collapse. The sharp fall in prices, caused primarily by a supply shock from the growth momentum in North American unconventional oil production and aggravated by OPEC's unwillingness to mitigate it, is likely to overwhelm the government's ability to respond. Even before prices spiralled downward, the government could hardly cope with a myriad of socio-economic problems. If Algeria's woes worsen, the financial resources it saved during past oil market uptrends might not be sufficient to confront its most urgent challenges.

Algeria's challenges stem from the country's overwhelming dependence on the hydrocarbon sector.

In recent years, when oil prices were comfortably above $100 per barrel, the oil and natural gas industry contributed on average 97 percent of total exports, 63 percent of government fiscal revenues and 37 percent of gross domestic product (GDP).

Owing to the extreme reliance on hydrocarbon exports, the country's external position could have been a major concern if not for low external debt and substantial (even if now declining) foreign exchange reserves. For now, the most immediate challenges are three: whether the government can continue to sustain expansionary budgets; whether it is willing to improve conditions for foreign direct investment (FDI) in the hydrocarbon sector; and whether it can contend with mounting dissent triggered by early shale gas ventures.

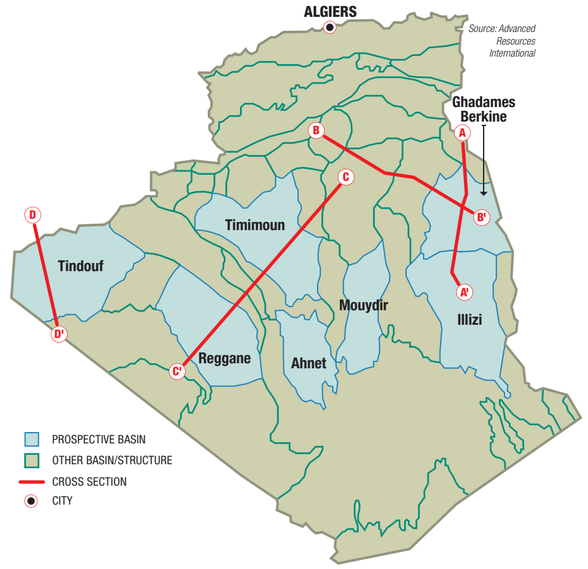
As well as exploring these challenges, we will attempt to determine whether the government is prepared to capitalize on the corresponding opportunities.

UNSUSTAINABLE EXPANSIONARY STATE BUDGETS

The dominant role played by the state in Algeria makes budget the most important instrument of the government's economic and social policies. The 2015 budget was passed by both chambers of parliament last October, perhaps with the expectation that the fall in oil prices would be short-lived. Neither chamber could anticipate OPEC's decision, a month later, to leave the market to its own devices.

Overall, the budget continues the expansionary trend that began with the advent of President Abdelaziz Bouteflika and has accelerated since the onset of the Arab uprisings. Total outlays amount to $110.8 billion (for the sake of consistency, we use the exchange rate suggested in the Budget Presentation Report) representing, on the Algerian dinar basis, an increase of 15.7 percent in nominal terms over 2014. Total revenues amount to $58.6 billion, resulting in an apparent deficit of $52.2 billion, equivalent to 22.1 percent of GDP in 2015. Dealing with such a large deficit should be the most immediate priority. For a better understanding of budget deficits in the Algerian context, it is important to highlight a key specific fiscal rule. Hydrocarbon fiscal contribution to budget resources has long been determined by law on the basis of a constant oil price of $37 per barrel. Accordingly, any outstanding amount (corresponding to the positive difference between the actual oil market price and the above fiscal reference price) is automatically transferred to the Fond de Régulation des Recettes (FRR), a decade-and-a-half old fiscal stabilization fund, whose net assets accumulated to $66.1 billion at the end of 2014. Assuming a market price of $60 per barrel, which is the current average consensus for 2015, we can infer, ceteris paribus, that the FRR assets are not only sufficient to cover the actual (non-apparent) budget deficit for 2015, but would allow a balance of $27.3 billion at the end of 2015.[1] The balance would be even more comfortable should capital expenditures continue their underperforming trend. However, the longer oil prices stay depressed, the quicker fiscal surpluses deplete, leaving the government lacking independent means to sustain future public investment plans. As resorting to public debt is not an option yet, cutting current spending appears inescapable.

Unfortunately, the "Ten Save-money Measures" announced by Mr. Sellal are too little to make a difference. These measures, which essentially focus on a public-sector hiring freeze and postponement of trivial infrastructure projects, convey two messages. First, while the government would proceed with growth-generating investment, it is still shy of considering alternative financing schemes. Second, the government would not seek to reduce budgeted social transfers and off-budget implicit subsidies. According to data released for the first time in the Budget Presentation Report, these subsidies amounted to $21.4 billion and $40.4 billion respectively during 2013, representing in total 29 percent of GDP. The move to communicate these data to legislators and, subsequently, to put them in the public domain is surely aimed at bringing awareness to the need for long-overdue reforms. The need for reform has yet to garner enough political support, even if it has long been admitted that subsidies would be more equitable if directed to the poorest segments of the population. Meanwhile, energy subsidies, which represent nearly two-thirds of total implicit subsidies, continue to encourage wasteful consumption and smuggling into neighboring countries, inflating as a result domestic demand at a huge opportunity cost from lost export revenues.



Reserves: 12,200 Million barrels as at 31 December 2013
Production: 1,748 thousand barrels/day (2013-14)

Reserves: 4,504 Billion cubic metres as at 31 December 2013
Production: 81.49 billion cubic metres (2013-14)

Source: Eni World Oil and Gas Review 2014

SHALE GAS BASINS

Existing and future shale basins. Algerian shale gas reserves technically recoverable could amount to 20.3 trillion cubic meters, according to the U.S. Energy Information Administration.

UNSATISFACTORY FDI CONDITIONS IN THE UPSTREAM HYDROCARBON SECTOR

In recent years, Algeria's energy balances have pointed to alarming trends, prompting a serious review of national energy policy. Between 2003 and 2013, total energy demand grew at an average annual rate of 4.1 percent. During the same period, energy supply decreased by 0.8% per year, resulting in a contraction of export volume of 2.6 percent per year. As these trends accelerated in the most recent part of the period, they raised concerns over depletion of oil and natural gas reserves and put pressure on the government to act. Unfortunately, the focus has so far been on supply, leaving demand-side management virtually unaddressed. Furthermore, the hydrocarbon supply response of the current energy administration, which comes on top of catch-up investment in power generation and →

A DESERT FULL OF TREASURES
Beetween 2003 and 2013 total energy demand in Algeria grew at an avarage annual rate of 4.1 percent. In the same period, energy supply decreased by 0.8 percent per year, resulting in a contraction of export volume of 2.6 percent per year.

the promotion of new and renewable energies, has been frustrated by both inherent and external factors. (Figure 2) The February 2013 revision of the ill-advised, decade-long hydrocarbon law has introduced new incentives to revive exploration and development and attract interest in unconventional resource plays. However, the minimal interest shown by IOCs in the first post-revision bidding round in September 2014 has highlighted lack of interest in the offering. In this respect, Algerian policymakers need to recognize that IOCs optimize their global project portfolios based on criteria of reward, control and risk. The fact that out of 31 licenses auctioned, only five bids were submitted, of which four were awarded, speaks volumes about the dissatisfaction a large number of IOCs felt. They must have seen problems with either the reward factor (modest returns on investment), or the control factor (Sonatrach's majority stake), or the risk factor (perceived security environment) or, more realistically, all three together. In addition, some companies may have already internalized the oil price downtrend, which is severely affecting projects' economic viability. Whatever the outlook for the oil market, risk will likely remain significant. Indeed, in the wake of the January 2013 terrorist attack on the Tiguentourine natural gas processing facilities in Amenas, security has emerged as a key investment decision criterion. Since the collapse of the Gaddafi regime in neighboring Libya in 2011, Algeria has faced a complex regional geopolitical and security situation. Libya's bloody power struggles and political upheaval have combined with the weakening of neighboring governments and the proliferation of weapons in the hands of terrorist and insurgent groups to cause mayhem Algeria's southern Saharan borders. Despite having developed a timely early warning and preparedness capacity, the Algerian security services and the army could not prevent the shocking attack on Tiguentourine from happening. The political, economic and psychological fallout from the tragedy has been far-reaching, clouding the hydrocarbon industry outlook. The attack has surely deterred FDI and increased the cost of operating in remote Saharan areas. It has also introduced a greater element of risk assessment, which must have been factored into new ventures. In any case, whilst striving to mitigate any further impact of regional upheavals, the government seems to have been caught by surprise by a new form of domestic opposition that is adding more uncertainties to the energy investment and operating climate.

UNPREDICTABLE MOUNTING DISSENT

Algeria's security conundrum has, since early this year, been exacerbated by anti-shale protests. The irony is that none of the potential shale blocks (about half the 31 offered perimeters) were bid for by IOCs. Instead, what triggered the protests were drilling operations on Sonatrach-sponsored pilot wells in the shale-gas prone part of the Ahnet Basin, nearest to In Salah. Before delving into this point, it is worth explaining what is at stake. According to a 2013 review of the world's shale resources sponsored by the US Energy Information Administration (IEA),[2] Algeria's technically recoverable shale gas reserves could amount to 20.3 trillion cum (more than four times the country's conventional reserves), and its shale oil reserves to 5.7 billion barrels (a little less than half the conventional ones). (see map pag. 45) While drafting an ambitious 20-year investment plan of some $70 billion to exploit this potential, Sonatrach moved to drill pilot wells in an ad hoc partnership with interested IOCs and service providers. The pilots have been designed to assess the wells' productivity and liquids content, as well as their economic and environmental impact viability. Accordingly, the partners started vertical drilling on two wells in 2012 and 2013 and then proceeded to complete horizontal drilling and fracking on the first well in 2014. Preparations to do the same with the second well have coincided with the protests. These protests, which were initiated by local residents expressing concerns over the possible impact of shale fracking on health and the region's scarce and precious water resources, have taken an unexpected turn. Amid conflicting statements about the government's policy intentions and programs, the protests have spread into a movement of dissent against what is seen as the government's ineptitude, misadministration and contempt towards the citizens; not to mention marginalization of its Saharan population. Already, the consequence is a profound distrust of government policies and the institutions in charge of implementing them. Whatever the outlook, these protests constitutes a new and unpredictable trend that seems to be pushing further long-standing grievances and aspirations, including broader expectations of a diversified, inclusive and job-creating economy, as well as genuine democratic participation.

A COHERENT AND SHARED VISION IS NEEDED

As Algeria's economic prospects remains closely bound to the state of its hydrocarbon sector, the collapse of oil prices has served as a strong reminder of the country's extreme vulnerability. In the current challenging environment, neither the available fiscal buffer nor the new framework for attracting FDI in the hydrocarbon upstream sector would entirely overcome the heightened challenges the country faces, including funding expansionary budgets and moving forward the process of recovery in the oil and gas industry. Furthermore, the government does not seem to have a realistic grasp of the threats and challenges from a new, unpredictable opposition that its inconsistent policies and lack of participation have provoked. Favoring participation requires a significant change in the Algerian policy-making mindset. This mindset, which has been shaped by old experiences and traditional ways of identifying problems and devising policies, is far too rigid to effectively deal with the challenges—and indeed the opportunities—that lie ahead. Challenges will hardly lead to opportunities without an informed public debate and the articulation of a coherent, credible and consensual vision to steer the country out of a looming crisis and lead it in a more viable direction.

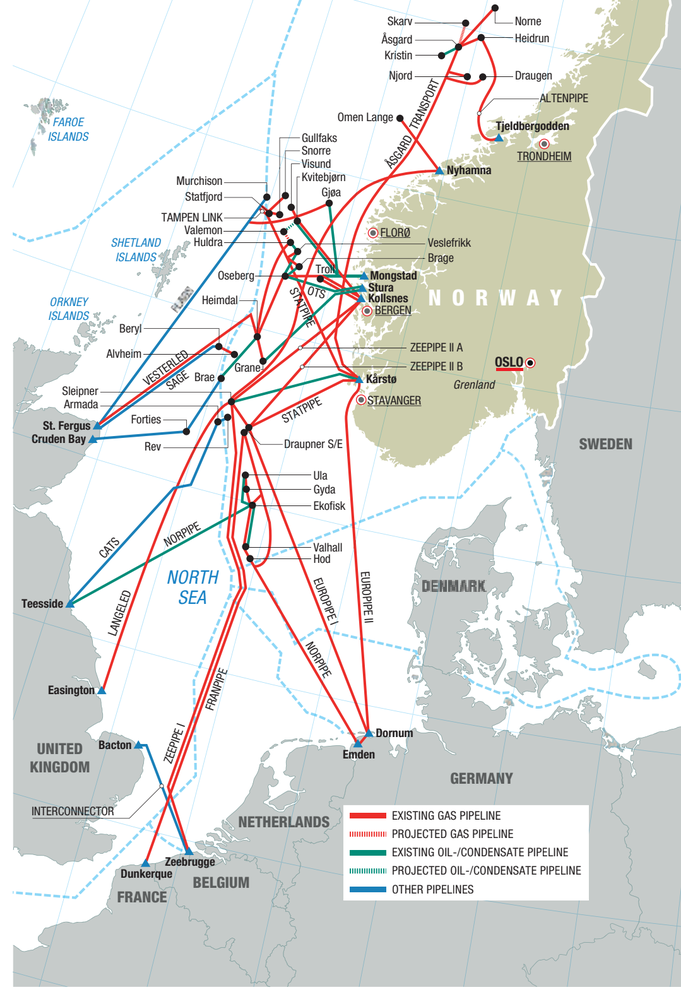
[1] Based on simulations, shared with the author, by Mouloud Hedir expert in public finance and international trade; formerly advisor to the Algerian government.

[2] US EIA (2013), "Technically Recoverable Shale Oil and Shale Gas Resources: An Assessment of 137 Shale Formations in 41 Countries Outside the United States".

Norway/A small-great country faces the difficulties of the oil industry

Nordic pride

Technological advances and a stable regulatory environment have protected Oslo from the adversities of a declining crude oil market, but high costs and an obsolete infrastructure system impede growth



Source: The Norwegian Petroleum Directorate

by ØYSTEIN NORENG

Even if some analysts had anticipated a fall in oil prices, the amplitude and suddenness of the decline surprised most observers. So far, the strength of the U.S. dollar versus the Norwegian krone, NOK, has softened the impact. Therefore, the risk picture includes a possible dollar depreciation.

In its economic outlook of early 2013, Norway's Finance Ministry did recognize a downward oil price risk, assuming an oil price of NOK 540/bl. in 2014, with a Brent price of USD 90/bl., and a USD/NOK exchange rate of 6.00. The average for 2013 had been NOK 6.38/bl., with Brent at USD109/bl., and an exchange rate of 5.88. But the average for 2014 turned out to be a price of NOK 622/bl., with a Brent price of USD 98/bl. and a US/NOK average exchange rate of 6.29. The dollar's appreciation in 2013 almost entirely made up for the nominal oil price decline in U.S. dollars. Apparently, in the Finance Ministry, as elsewhere, there was little awareness of potential effect of the structural change in the oil market due to U.S. shale oil and competing motor fuels.

OPTIMISM BASED ON HISTORICAL EXPERIENCE PREVAILS

2015 started on an even worse footing. The average for the period January 2nd – February 17th was a price of NOK 388/bl., with Brent at USD 50.71 and the USD at NOK 7.64. The dollar appreciation no longer compensates for the oil price decline. Indeed, for nominal oil prices, Norway has been set back ten years, to 2005, when oil was at NOK 351/bl., with Brent at USD 54.57 and the USD at NOK 6.44. In real terms, in constant NOK, the price of oi is back at the level of late 2004 – early 2005. In hindsight, those were good times for the oil industry and for the Norwegian economy. In the mean-time, the industry has internalized high prices and rising costs, even if technology has improved and the geological situation remains essentially the same. Early 2015 brought the risk of a further fall in oil prices and in the U.S. dollar exchange rate, as well as failure to respond appropriately.

Historical experience gives room for some optimism. From 1985 to 1986, oil prices fell by one half after twelve years of unusually high levels, from USD 27.56 to USD 14.43 (annual averages), accompanied by an abrupt fall in the dollar exchange rate from NOK 8.60 in 1985 to NOK 7.40 in 1986. The outcome was a decline in oil prices from NOK 237/bl., to NOK 107/bl., i.e. by fifty-five per cent. Nevertheless, the Norwegian oil industry persevered, buoyed by a tax reduction and inspired by major discoveries made in the late 1970s and early 1980s. Costs had soared in earlier years, but came down. Oil companies reduced their exploration drilling, but capital investment continued to increase, also through the 1990s, as oil prices were low.

The Norwegian oil industry's robustness in the face of price adversity has its explanation in geology, technological progress and a stable regulatory environment. Throughout the period from 1964 to 2009, the industry had drilled 884 wildcat exploration wells on the Norwegian continental shelf, against 2366 in the UK sector. In Norway, the average success rate had been 43 percent, against 23 per cent in the UK. Low oil prices induced the industry, with active government assistance in research and development, to find new ways to cut costs. Breakthroughs include three-dimensional seismic, stratigraphic drilling, and joint pipeline transportation of crude oil and natural gas, as well as large-scale automation of operations.

A MORE ADVANTAGEOUS TAX REGIME

More recently, the regulatory and tax changes introduced in 2005 have proved a major success. Previously, the fiscal regime had discriminated between incumbents, i.e., companies with cash flow from production, and newcomers without it. The tax re- →

THE AUTHOR
Øystein Noreng is a professor at the Norwegian Business School of Management since 1977, where he holds the FINA chair in petroleum economics and management from 1990. Since 1990 he is also director of the Master in Economics and Energy Management at the same institute. Holder of numerous assignments for public and private organizations internationally, including the governments of Norway, Denmark and Sweden, the US State Department, the United Nations, the World Bank, the International Monetary Fund and the International Energy Agency, is technical consultant at the International Court of Justice in The Hague (Netherlands).

form benefited newcomers; enabling the to write off exploration expenditures immediately and, in case of failure, to withdraw with the government reimbursing 78 percent of their costs, the standard petroleum tax level. The change has attracted a multitude of newcomers, essentially smaller and medium-sized independent companies, foreign as well as Norwegian. They have brought fresh ideas. The result is an increase in exploration and a significant improvement in success rate, which in recent years has been between 50 and 60 percent. The most spectacular case is the discovery of the Johan Sverdrup field in 2011 by Lundin Petroleum, a newcomer, at a location where Elf had drilled a dry well in 1974. Current insight and technology are far better, but the clue was a newcomer thinking in non-conventional ways and willing to take a risk. By a prudent estimate, the field should contain about 2,500 million barrels of oil, possibly producing up to 650,000 bbls/day for at least twenty years, with a break-even cost of perhaps fifteen dollars a barrel. Even if this is a unique discovery, in recent years the industry has made many smaller finds in all three parts of the Norwegian continental shelf, i.e., the North Sea, the Norwegian Sea and the Barents Sea. Hence, latest experience encourages the oil industry, even with lower prices.

A STRONG ECONOMY, DESPITE THE FALL IN OIL

Norway's macroeconomic position is also reasonably robust. In 2013, with Brent at USD 109/bl., the petroleum industry accounted for about 16 per cent of gross national product, GNP, and 48 per cent of total exports. That year, Norway's trade surplus was 12 per cent of GNP; without petroleum exports, Norway's foreign trade was in balance. Thus, in theory, Norway could afford to continue business as usual without any oil and natural gas exports. Nevertheless, the pace of economic activity is slowing. Low oil prices affect Norway's large exports of petroleum technology and services, in addition to the domestic supply industry. Low oil price also reduce the capital build-up of Norway's Sovereign Wealth Fund, though not government revenues that are a percentage of the Fund's capital stock. This mechanism essentially shelters Norway's domestic economy from the vagaries of the oil market. Moreover, lower oil prices are likely to stimulate the world economy and hence the return on the Fund's investment abroad. Indeed, the Fund is the buffer against adversity. At the time of writing with a value of almost USD 900 billion, it is the world's largest. By comparison, the 2015 estimate for Norway's GNP is USD 430 billion, and USD 335 billion for the continental economy, excluding the offshore petroleum activities. Thus, the Fund is more than twice the GNP and almost three times the size of the non-oil economy, which the Fund shelters. The budget for 2015 has a magnitude of about USD 160 billion, and a transfer of about USD 20 billion from the Fund, about fifteen percent of government expenditure. The amount only represents 2.6 per cent of the current value of the Fund (as measured by mid-February). Following the four percent rule, based on an estimate average return on the investment, the transfer ceiling would be about USD 35 billion, or 22 percent of government expenditure. Thus, the Fund permits expenditure without corresponding taxation, permitting a generous welfare state with comparatively low income tax.

HIGHER COSTS ARE NOT HOLDING BACK PROJECTS

The impact of lower oil prices on the Norwegian oil industry will not be uniform. Marginal projects throughout Norway's waters have come under threat by the oil price decline. Indeed, historically, petroleum activities in Norway have been highly sensitive to oil prices. In the low price environment of the 1990s, exploration fell. It picked up only in 2006 as prices had risen markedly and new tax rules provided better incentives for newcomers. Most of the prospects commissioned for development are likely to be completed, but the industry could delay or abandon several smaller prospects unless they are close to infrastructure. The North Sea is likely to stay attractive for the industry, but the Barents Sea may become less so.

In any case, a reduced pace in exploration and development was in the cards for the next few years even before this fall. Paradoxically, that may be an advantage. Over the past ten years, Norway's petroleum industry has experienced cost escalation, driven more by industrial factors than geology, meaning rising labor costs as well as rising supply chain costs. The investment boom has caused bottlenecks, reduced competition and rising costs; indeed, in this industry, the oil price is largely driving costs. In a typical Norwegian oil project, drilling represents fifty to sixty per cent of total costs. Since 2002, rig rates have followed oil prices; the floater daily rate has risen from $100,000 in 2002 to $500,000 in 2013. The cost increase is due to bottlenecks in the supply chain, imperfect competition at many points and particular Norwegian specifications for rigs. A more alarming sign is the loss of productivity in drilling. This may be partly due to advancing automation, as workers operate faster than complex machinery on the platform decks, but with greater health and safety hazards. With lower oil prices, the problem is acute.

In Norway, petroleum taxation amplifies this problem, as the government takes 90 percent of the capital costs but only 78 percent of the net profit. The disparity does not provide strong incentives for cost consciousness. The mechanism is an additional uplift on capital expenditure of 5.5 percent a year for four years against the special tax of 51 percent. Currently, a lower level of activity leads to lower rig rates and more idle capacity in the supply chains. Break-even costs are coming down. Therefore, the outlook is for a slower pace of exploration and development at lower costs.

INCENTIVES FOR INVESTMENTS IN THE OIL SECTOR

The signal from the government is that Norway is not in a crisis. The prime minister Erna Solberg has stated that the oil price decline provides a good occasion to diversify the economy. Her oil minister, Tord Lien, from a different party, intends to boost petroleum investment, especially in the Arctic waters of the Barents Sea. Until further notice, fiscal measures to boost petroleum investment seem unlikely. The government has just announced the 23rd licensing round. The round focuses on northern waters, especially the Barents Sea. If oil prices stay low or fall further, the industry response is likely to be feeble. In that case, the government might consider measures to stimulate investor interest, including tax relief. Exports of petroleum technology and services are critical to employment and income in parts of the country.

Without the sizeable economic rent, the petroleum industry will no longer be the generator of huge surpluses that have marked the Norwegian economy over the past ten years. Even if the economic rent essentially has accrued to the government, the oil industry and the supply chains, part of it has also benefited the public. In spite of channelling petroleum revenues directly to the Sovereign Wealth Fund, the indirect effects of using the return of the Fund have been important over the past ten years. The Norwegian economy has internalised high oil prices and the ensuing economic rent in the sense that households have become used to ever-rising purchasing power, businesses have adjusted to an ever-expanding domestic market and public authorities have become accustomed to ever-larger budgets. Indeed, for the past decade, high oil prices have caused a combination of pres-sures in the Norwegian economy. Rising oil investment has spurred escalating factor costs, with ripple effects in the rest of the economy. The mounting value of the Sovereign Wealth Fund has caused higher returns and triggered larger transfers to the budget. Norway's central bank has warned that this luxurious economy is ending. The challenge is to convince the public and especially the politicians. Norway's labor market institutions contribute to macro-economic robustness. Centralized wage bar-gaining means that in good times, the benefits are broadly shared, contributing to comparative income equality. In adverse times, it facilitates wages restraint. This year, the trade union confederation, LO, has declared that there is little room for wages increases, a reasonable position in a situation with low unemployment after many years of rising real wages.

The downsizing of the oil and oil services industry will make human resources available for other industries. High-tech industries and infrastructure investment are potential new drivers of the Norwegian economy. Currently there is a critical shortage of engineers and other skilled personnel. In addition, the depreciation of the krone is making other industries more competitive. Indeed, as raw materials exports are important, causing an economic cycle opposite to those of the trade partners, there is some wisdom in retaining an independent currency. Since early 2014, the Norwegian currency has depreciated by twenty percent against the U.S. dollar, but by only three percent against the euro. In the current context, it might be tempting to let the Norwegian currency slide further against the euro, although there is a risk of higher inflation that might offset the gains.

INFRASTRUCTURES AND ENVIRONMENT PRIORITIES

To stimulate other export industries, the most urgent tasks are to step up research and development and to improve infrastructure. The preceding center-left coalition neglected these tasks, even with huge revenues at its disposal, but gave priority to welfare and private consumption.

Reaping the benefits of rising raw materials prices, successive governments have underestimated the need for research and development, except for the offshore petroleum industry. Norway's transportation infrastructure is critically inadequate. Roads are insufficient to cope with traffic. The rail network is even worse due to poor maintenance over many years. Freight traffic is increasingly going by road, not by rail, in spite of most politicians' commitment to the environment. Most of Norway's fish and seafood exports move by huge trucks on narrow roads, in a business whose export value is time critical.

Norway is usually depicted as a mature oil province, but most of its huge maritime territory is fallow, unexplored. By the end of 2013, exploratory drilling had taken place on blocks totalling less than five percent of the area that the Norwegian Petroleum Directorate considers to have petroleum poten-tial. The reasons for the slow pace of exploration are complex. Technology has been an important obstacle, but the desire to keep a moderate pace in licensing and exploration is also due to a combination of environmental concerns and economic needs. Norway's waters are some of the world's major fishing grounds, important to the world's food supplies. Moreover, Norway's modest population of just five million has limited economic requirements. GDP per capita is about twice the U.S. level and there are serious concerns about the economy overheating and the petroleum industry dominating. Low oil prices enhance concerns about the need to diversify the economy.

The petroleum industry's priority is to cut costs, as was the case after 1986. Petroleum taxation needs an overhaul to correct the disparity between incentives for capital expenditure and surplus take by the government, in order to give stronger enticements for cutting capital costs. A possible measure would be to abandon the capital uplift mentioned above against an immediate depreciation, and perhaps to enact a lower special tax, reducing total government take. Petroleum activities in the Arctic waters, close to the ice edge are politically controversial in Norway; lower oil prices make them economically more questionable. As an alternative, there is plenty of unexplored acreage further south. Indeed, the resource potential might provide a basis for sustained petroleum activities perhaps through this century, depending on markets, prices, technology and costs. Against this backdrop, Norway has the prospect of remaining a frontier area for the petroleum industry for decades to come. There is an evident need for pluralism and competition in order to ensure efficiency and innovation. ■

A SYSTEM OF BIG NUMBERS
Norway's crude oil refining capacity amounts to 319,000 bbl/d, thanks to the two main plants of Mongstad (203,000 bbl/d) and Slagen, (116,000 bbl/d). In the picture, a refinery plant near Bergen.

Source: EIA, US Energy Information Administration, data 2014

Nigeria/The reaction of an economy based solely on oil

New challenges on the horizon

The country must respond to problems posed by the collapse of oil prices with targeted policies aimed at diversifying the economy sustainably, and with a more proactive approach to public debt management

by SHOLA OMOTOLA

The sharp decline in international crude oil prices has had (and will continue to have) serious effects on the international and domestic political economy. Though all leading oil producing/exporting countries, including Russia, Columbia, Venezuela and Nigeria, are counting their losses, Nigeria would appear to be the biggest looser for obvious reasons. First, unlike most other countries in the same situation, Nigeria has, despite amassing huge oil revenues over the years, remained essentially a mono-economy based on oil. Second, from all indications, the country appears ill-prepared to absorb the shocks from the sharp fall of crude oil prices. Above all else, the mismanagement and attendant depletion of the Excess Crude Account (ECA), created to save surpluses in oil revenues for rainy days such as this, have combined to make the pains of the crisis bite harder Third, official responses to the crisis in the form of adjustments to monetary and fiscal policies have also come with their own complications, and thus mixed outcomes. This piece is meant to shed light on these and related issues to underscore the unsavory consequences of this development.

A SAVINGS FUND OF REVENUE DERIVED FROM OIL EXPORTS

Nigeria prides itself on being Africa's largest economy. This followed the rebasing of its GDP in 2013, which revealed some measure of diversification of its economy, as well as the increasing contributions of other sectors such as banking, music and film industry to GDP, which in 2014 stood at $509 billion. Despite these advances, Nigeria remains essentially an oil economy, with 90 percent of its export revenues still coming from the oil sector. It follows, therefore, that crucial economic and development policies are predicated upon the realities of the oil sector. The fact that Nigerian's federal budget is based on conservative estimates (benchmarks) of the world price of oil is a testament to the centrality of oil to national planning and development. It is also important to note that prior to the current oil crisis, the price of crude oil was fairly stable and on the high side, occasionally reaching $140 per barrel. Indeed, during the oil boom, which coincided with the onset of democratic rebirth in 1999, prices rose progressively from $10 and reached $140 per barrel in 2008. As recently as early June 2014, oil was still above $100 per barrel.

In response to the oil boom, former President Olusegun Obasanjo's administration created an ECA to which surplus oil revenues were remitted as a cushion against sharp drops in oil prices. Despite questions about its legality, successive administrations continued to retain and feed the account. This, together with the country's foreign reserves, was meant to save for rainy days. Unfortunately, both accounts are said to have been grossly mismanaged, especially under the current administration.

According to a recent account by former Governor of the Central Bank of Nigeria (CBN) Professor Charles Soludo, when Obasanjo left office in May of 2007, the account held roughly $43 billion, even after a payment of $12 billion to write off the country's external debt. Soludo added that under his watch as CBN governor, he was able, despite the global financial and economic crisis to which the country lost about $15 billion in 2008, to marginally upgrade the reserves to $45 billion by the time he left office. But the current administration, according to Soludo, has actually significantly depleted the account. And the same applies to the ECA, whose total worth by December 2014, had dropped from $9 billion to $4.1 billion. The mismanagement is further reflected in the rising accumulation of public debt, with Nigeria's current domestic and external debt put at over $50 billion. There are also external dimensions to the troubles, two of which are most illustrative. First, a number of factors, notably climate change, new technologies and the relative success in the search for alternative sources of energy, may cast a permanent gloom on the significance and importation of Nigerian oil in the global energy market. Second, and closely related to the first, is the fact that the U.S., hitherto the largest buyer of Nigeria's oil, has stopped buying from Nigeria. Ths unanticipated change necessitated the search for new buyers. The search, according to Diezani Allison-Madueke, Nigeria's Petroleum Minister and incumbent President of OPEC, will focus on the Asian axis. However, Nigeria's search for new markets in Asia does not appear to have born fruit before the collapse of oil prices. This has important ramifications for production and income levels for the country.

It was in the thick of these perilous economic conditions that the collapse of the oil prices regime caught Nigeria. While such shocks are in themselves capable of distorting domestic political economy, the extent of associated damage can also be a function of the quality of official responses to them. These forces, together with prevailing political and socio-economic realities, including excruciating insecurity especially the war against Boko Haram, high level of poverty and tensions surrounding the 2015 political transition, can converge to heighten the effects of the current regime of international oil prices. Put differently, this contextual background simply suggests the ill-preparedness of Nigeria for absorbing the shocks in global oil prices. By implication, their consequences are likely going to be much more serious, and the costs of remedying them higher.

ECONOMIC STABILITY IS AT RISK, PARTLY DUE TO THE REDUCTION IN EXPORTS

Nigeria's oil economy has not been the same since the collapse of global oil prices in mid-2014. The impact of the sharp decline of the price of oil is already manifesting itself in diverse ways. At a general level, the oil price shocks have created some measure of uncertainty in fiscal management, and this is capable of undermining the stability of the economy. More specifically, the fall in oil prices has brought about a drastic reduction in foreign exchange earnings and total government revenues. As a source demonstrated, though the drop in the price of crude has reduced the government's bills on subsidy, with Nigeria producing about 2.4 million barrels per day, of which it is exporting nearly 2.2 million, "the country may have lost an estimated $11.5 billion between June and November 2014 due to the current drop in the price of crude." If the computation is extended till date, the financial loss would be staggering, with no end in sight, at least for now. The monthly report of the Nigerian National Petroleum Corporation (NNPC) for September 2014 revealed that export to Europe, Nigeria's biggest regional market, fell from 33.6 million barrels in August to 29.2 million barrels in September 2014. The report also showed how the Asian region, the major target →

THE AUTHOR
J. Shola Omotola, PhD, Senior Lecturer in Political Science at Redeemer's University, Nigeria, is a Wits Africa Residency Fellow (2014–2016) in the Department of International Relations, University of Witwatersrand, Johannesburg, South Africa. His main research interests are in comparative African elections and democratization studies; political institutions, governance and politics in Africa; and oil and environmental politics in the Niger Delta. His publications have appeared in *African Affairs*, *Africa Today*, and *Commonwealth and Comparative Politics*, among others. He is co-editor of *Horror in Paradise: Frameworks for Understanding the Crises of the Niger Delta Region of Nigeria* (Durham, NC: Carolina Academic Press, 2014) and of *The Legislature and Governance in Nigeria* (Ibadan, NG: John Arc hers Publisher, 2014).

market for many oil exporters, also reduced its import of Nigeria's crude oil by 4.4 million barrels in September. Even India, Nigeria's new biggest oil market, was reported to have reduced its import of Nigerian crude in September by 3.1 million barrels. Overall, "total export from the country in the month declined to 67.1 million barrels from 70 million barrels in August." Unless alternative markets are discovered and captured for these products, the financial loss will be huge. Declining foreign exchange earnings meant a reduction in the country's foreign reserves, an account that has constantly been underserviced during the era of oil boom under the current administration. Official statistics provided by Mr. Godwin Emefiele, the CBN Governor, revealed that gross official reserves dropped from $40.7 billion on September 17, 2014, to $36.75 billion at the end of October 2014.

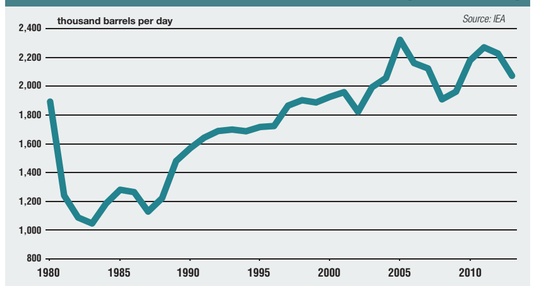
A DOWNWARD REVISION OF THE CRUDE OIL BENCHMARK

Given that the national budget is usually prepared using projected oil prices and quantity of sales, the huge drop in oil prices has ensured that the fiscal premises of the budget have been severely distorted and by extension so has the budget itself. These distortions accounted for the downward revision of the crude oil benchmark for the 2015 proposed in the Medium Term Expenditure Framework (MTEF), submitted for the 2015 budget. Originally, a $78 per barrel oil benchmark was proposed, but it was later slashed to $73 per barrel in the revised proposal, using an exchange rate of N162 to a dollar. A further fall in the oil prices necessitated another downward revision of the benchmark to $65 per barrel, with an exchange rate of N165 to a dollar. Any additional drop in oil prices may facilitate yet further downward review. The enforced review, according to the Minister of Finance and coordinator of the economy, Dr Ngozi Okonjo–Iweala, was due mainly to the impact of the declining global oil prices, necessitating "a multi-pronged strategic response to mitigate the adverse effects of the decline in global oil prices" that would help "protect growth, reassure investors, and stabilize the country's economy."

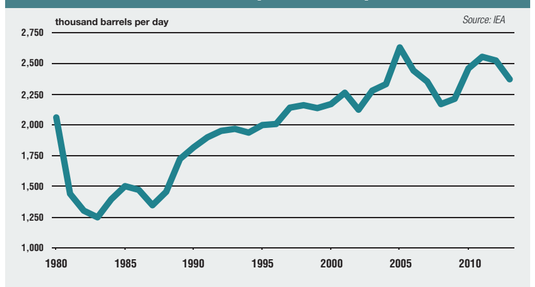
Moreover, the value of the naira, Nigeria's national currency, has plummeted dramatically, with a dollar now exchanging for over two hundred and twenty naira ($1 = N220+). The failure to adequately service the ECA and Nigeria's foreign reserve robbed the nation of would-be shock absorber that could have served as a kind of buffer against the collapse of the naira. Among other consequences, together these unhealthy developments have engendered general inflation and increased the cost of living. In addition, given the current exchange rate, the much- celebrated status of the country as the biggest economy in Africa may soon evaporate. This is because the country's GDP in current dollars may have begun to shrink considerably. This reinforces Professor Kunle Amuwo's position as powerfully argued elsewhere that Nigeria's status as the biggest economy in Africa may be "nominal." This is an important area that deserves special attention in measuring the impact of the fall in oil prices. These developments have also affected the government's expenditures pattern negatively, causing significant cuts and distortions. As experienced in December 2014, the revenue available for distribution to the three tiers of government has continued to nose dive. As revealed by the Federation Account Allocation Committee (FAAC) during its meeting in Abuja January this year, a total of N580.378 billion was shared in December, compared to N628.775 billion in November, 2014 among the Federal, State and Local Governments. This showed a drop of N108.560 billion. In order to make up for the short fall, the Federal Government resorted to raiding the ECA. In the process, a total of N15.63 billion was deducted, leaving a balance of $2.45 billion as at January this year. In the circumstance, the immediate response of the government through FAAC was the reordering of priorities. It was such that there was no allocation for the Subsidy Reinvestment and Empowerment Programme (SURE-P) in December, compared to November, when the sum of N35 billion was distributed to the three tiers of government. Other austerity measures introduced include a reduction in public spending through the cancelation of foreign training and a scaling down of foreign travels by public officials and civil servants, as well as the imposition of high taxes on luxury goods. All this can only add salt to an already festering injury.

These issues have become so big as to assume political ramifications. The presidential candidate of the opposition All Progressive Congress (APC) has alerted Nigerians to the dangers posed by this development when he said that if elected, his government would inherit a big debt and an empty treasury as a result of the drop in the prices of oil. This presupposes a warning that the government may find it tough meeting its obligations and that Nigerians should be prepared for associated ills.

ESTIMATED PETROLEUM NET EXPORTS (1980-2013)



TOTAL OIL PRODUCTION (1980-2013)



Both graphs show that from 1980 to 2013, Nigeria's oil production level has almost always risen and fallen in relation to the level of its exports. In the face of collapsing oil prices, the country faces a difficult period and must necessarily diversify its economy.

MORE DISCIPLINE IS NEEDED IN FISCAL MANAGEMENT

Given the prevailing realities of the oil market, it is obvious that these are not heady days for Nigeria. Though official interventions have often been accompanied by assurances that the government was in control of the situation, the reality would appear to suggest otherwise. In the short run, the response of the economy to policy interventions has not been able to provide the magic wand needed to cushion the effect of the deepening crisis of the oil market. Increasingly, the people are confronted with the rising costs of imported goods, rising unemployment and a general rise in the cost of living. Even in the long run, when the positive impacts of such interventions are expected to manifest themselves, this government does not appear to be sufficiently endowed with the fiscal discipline and political will to ensure strict compliance with the implementation of such measures. The fact that all these are happening in this season of politics, which is almost coterminous with a season of anomie in this part of the world, makes the whole thing more worrisome. In times like this, politicians on both sides of the divide (government and opposition) would rather increase, instead of reducing, their reckless spending in order to retain and/or capture power at all costs. This is one of the major dilemmas confronting Nigeria in responding appropriately to the challenges of the collapse of global oil prices. If there is a lesson to be learned for the future, it is that things can no longer be business as usual. Above all else, the need to develop Nigeria's non-oil sectors through deliberate policies aimed at diversifying the economy in a sustainable manner is no longer negotiable. In the short run, the government is expected to be more disciplined in its fiscal management and genuinely fight corruption. It should also be much more proactive in the management of Nigeria's debt. ■

ABO About Oil

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Venezuela/The government in Caracas faces a severe challenge

Where is the way out?

It holds the richest oil reserves in the world, but the fall in crude oil prices has added to Venezuela's already serious political difficulties, jeopardizing its public finances

by SERENA VAN DYNE

The times of the triumphant revolution, led by Hugo Chávez, seem long ago. Today, Venezuela is plagued by a persistent shortage of primary goods, inflation that hovers at around 65 percent year on year and by the weakness of the local currency (at the official exchange rate, one U.S. dollar is worth about 6.3 bolivars). Not surprisingly, Venezuela's poverty rate has increased from 25 percent in 2012 to the current 32 percent. Last December, the rating agency Fitch, one of the big-three credit rating agencies, further lowered the rating of Venezuelan debt, bringing it to a rating of "CCC," indicating that a default was a "real possibility." In January, Moody's, the premier rating agency, also lowered Venezuela's rating from Caa1 to Caa3, noting "an increased risk of default due to lower revenues caused by the fall in oil prices." In effect, since gross domestic product decreased by three percent in 2014, public debt amounted to $35.4 billion, while foreign exchanges reserves fell below $20 billion.

A FRAGILE ECONOMIC STRUCTURE

Venezuela has the largest oil reserves in the world, amounting to more than 297 billion barrels, and is the eleventh largest producer, with over 2,700,000 barrels per day (Eni World Oil & Gas Review 2014 data) and the fifth largest exporter of the OPEC cartel. The 60 percent decline in crude oil prices since last year has had a negative impact on the finances of all oil producing countries, but few have been affected more than Venezuela. The government of President Nicolás Maduro experienced serious budget problems in June, when crude oil cost $107 per barrel; the effect that the sharp decline in prices is having on the country's finances therefore also affects the popularity of the Venezuelan leader, which dropped to 20 percent at the beginning of February. The fall in oil prices is, however, only the final economic element within a structurally weak economic framework. The country, so deeply linked to the revenue of a single asset, was unable to maximize this revenue when oil was at its peak. Black gold, in fact, represents 96 percent of overall exports, while revenues for the state, through the activities of the company PDVSA (Petroleos de Venezuela S. A.), have dropped over the last five years from 41 to 30 percent of the total. Oil revenues are used for populist policies that form the basis of the social consensus of the regime, and several analysts maintain that nationalization and the large social programs created the imbalances that have damaged the economy. Maduro responds to the lack of basic necessities by denouncing a conspiracy among western governments, political parties of the opposition and Venezuelans belonging to the wealthier classes to fight the "socialism of the XXI century," implemented by the late leader Hugo Chávez. Meanwhile, the country is forced to import 70 percent of consumer goods and, paradoxically, even oil from Algeria.

DIALOGUE BETWEEN BEIJING AND CARACAS

Venezuelan President Nicolás Maduro and Chinese President Xi Jinping, in Beijing. China plans to invest $250 billion in Latin America over the next 10 years.

THE GOVERNMENT'S STRATEGY FOR CONFRONTING THE CRISIS

Venezuela is not alone in suffering damage caused by the fall in oil prices. OPEC's president, Diezani Alison-Madueke, in an interview with the Financial Times a few weeks ago, admitted that "almost all OPEC countries, except, perhaps, the Arab bloc, are very uncomfortable" with the decision to keep production unchanged.

In the last few months, no one has put more pressure on Saudi Arabia to reduce its oil production than Nicolás Maduro.

For this reason, at the beginning of the year, the Venezuelan President launched an important mission to Asia and the Middle East, though he obtained little more than the polite attention of his interlocutors. On his return from China last January, the Venezuelan President promised $20 billion in investments and financing, but the government's strategy to free the country from the deep crisis in which it finds itself still seems undefined.

In October, the government gave up the idea of selling Citgo, a fuel sales company (based in Texas) 100 percent owned by the public company PDVSA, deciding instead to charge Citgo $2.5 billion for the debts of its parent company (PDVSA must honor maturities amounting to $21 billion by 2016).

In November, the Russian state company Rosneft and PDVSA signed an agreement to import 1.6 million tons of oil and 9 million tons of oil derivatives. Now, however, the most pressing need is to be able to ensure that people have access to basic necessities. To succeed, Venezuela announced that it has modified an existing trade agreement with Uruguay in order to allow the government to use oil to pay for meat and other food products. Under the agreement, which provides for a first tranche in July, Venezuela will send 12,300 barrels of oil a day to Uruguay in exchange for beef, milk, rice and oranges. ■

EDWARD L. MORSE
Managing Director and Global Head -Commodities, Citi Research. He worked previously in the U.S. Government in the State, Energy and Defense Departments, and at the International Energy Agency. His work has appeared in *Foreign Affairs*, the *Financial Times*, the *New York Times*, *The Wall Street Journal* and the *Washington Post*.

ROBERTO BOCCA
As a Senior Director and Head of Energy Industries of the World Economic Forum, he has been involved in the analysis of international plans for improving energy security and efficiency. From 1995 to 2009, he held positions at the top of British Petroleum.

GUIDO GENTILI
He is a columnist for *Il Sole 24 ore*, of which he was director from 2001 to 2005.
From 1996 to 1998, he was a columnist for *Il Corriere della Sera* and editor of the weekly *The World*.

DAVIDE TABARELLI
President of Nomisma Energy from 1990 to 1996, he was director of the RIE, where he worked on research projects on the electrical industry and environmental policies. He publishes major magazines devoted to energy issues.

JULY 2008
over 130
USD/BBL
BRENT

THE PRICE

DECEMBER 2008
40
USD/BBL
BRENT

JANUARY 2015
47.76
USD/BBL
BRENT

The economic and financial impact of the global decline in oil prices, in areas such as the European Union and Italy, and in industries related to towards the energy sector. A data-driven look at what the future holds, based on the contribution of expert analysts

WORLD

Oxygen for the global economy

by EDWARD L. MORSE

What was surprising about last year's oil price collapse was its timing rather than its occurrence. Sooner or later, the relentless production growth of three non-traditional energy sources – production from deep water, oil sands and shale – was going to challenge the pricing system that has been in place for most of the last half century and bring prices down. Why the collapse occurred last year is a function of the timing of three separate factors: (1) the U.S. shale revolution, which finally turned the supply and demand balance for light sweet crude from a deficit to a balance and finally to a glut, putting pressure on benchmark crude oil Brent; (2) the slowing of global growth, particularly in emerging markets, which sharply curtailed global oil demand; and (3) Saudi Arabia's decision at a critical moment of market weakness to remember the lessons of the 1980s, when it was last confronted by the existential threats posed by lower demand and higher non-OPEC production growth. It chose a market share strategy in place of orchestrating an OPEC cut to balance the market.

THE HISTORICAL CYCLES OF OIL PRICES

The price collapse was itself a function of the structure of the global oil market; what economists refer to as "elasticity" of supply and demand to price is extremely low. When, a decade ago, demand for oil products, particularly for diesel, was growing higher than supply from refineries, price rose, at times spiking, because demand is relatively constant at a wide range of prices, so it takes a very high price to ration (or stifle) demand to balance markets. A few years ago, in 2008-09, oil demand fell in response to the deep global recession. It took a very low price, as oil prices declined from close to $150 per barrel to under $40 per barrel, to pull back supply. And, at that time, OPEC countries accelerated the price recovery by removing 4.2 million b/d from oil markets, as they awaited an economic and oil demand recovery. This time, the price collapse is virtually entirely supply related. What's more, the supply appears to be far more enduring. as unconventional shale in particular is likely to be developed not only in North America but on a more global basis at significantly lower costs due to the pace of technological change and "learning by doing" on the drilling side. Given the robust nature of not just shale but deep water and oil sands resources as well, and given the rapidly declining oil intensity of GDP growth, it now looks as though when markets rebalance, they will do so at significantly lower prices than those that prevailed between early 2011 and the middle of 2014, when Brent prices averaged around $110 per barrel virtually every quarter. Thus, in evaluating the scale of winners and losers and the overall impacts on the global economy and financial sector of the price collapse of 2014-15, we see an alluring indication that the winners and losers in the short-term will also be the winners and losers over a longer horizon, if $70-90 oil prevails.

A DRAMATIC FINANCIAL BLOW TO PRODUCERS

The more than $50 average drop in oil prices from June 2014 to the middle of Q1 2015 brought with it a phenomenal transfer of revenues from oil and gas sellers to buyers with a dramatic set of both intended and unintended consequences that are still unfolding and reverberating through the world. economy. The numbers are stunning. In a world whose nominal GDP reached an estimated $75 trillion in 2013, Citi estimates total earnings from oil and natural gas sales (including biofuels and LPGs) to have been around $3.7 trillion, or roughly 5 percent. Of this, traded crude oil globally amounted to just over $2 trillion. And of this $2 trillion, OPEC countries earned just under half (the range of estimates for 2013 is a low of $826 billion, excluding Iran, according to the U.S. Energy Information Administration [EIA] to well over $1 trillion in nominal terms). Citi estimates that if first half of Q1'15 prices were to hold for all of 2015, traded oil would amount to $950 billion and OPEC's share of that would be a bit over half, or about $450 billion, a level in nominal terms not seen since 2004 or 2005, wiping out all of the earnings growth accompanying high prices over the last decade. Focusing on the OPEC producers, the EIA estimates that per capita, OPEC revenue amounted to an average of $2,520 in 2003 and slid to $2,275 last year, buoyed by higher prices through the first three quarters of the year. At current prices, average per capita revenues for all of OPEC would amount to $1,100 this year. Of course the distribution of revenue per capita or per citizen is highly skewed. Three OPEC members who are also members of the Gulf Cooperation Council–Kuwait, Qatar and the UAE–with their large cadres of foreign workers and with per capita revenues ranging from $10,000 to $40,000, would largely be cushioned from the pain. But two OPEC countries –Ecuador and Nigeria – already had per capita revenues well under $1,000; and several others – Algeria, Angola, Iraq and Venezuela – should see revenues falling to a level that →

makes balancing already strained budgets politically difficult. One of the fallouts, therefore, of the drop in oil prices, even if they recover to a level of around $70 by 2016 and 2017, is likely to be an upsurge in domestic tensions, leading to potential military takeovers or political fragmentation such has already occurred in Libya since the so-called "MENA Spring" of 2010-11.

A DRAMATIC DROP IN INDUSTRY CAPITAL EXPENDITURES

As we noted, one of the main causes of the oversupply in markets was the sharp rise in investments in what were once called "frontier" or "unconventional" hydrocarbon plays. These investments were uneconomic when oil was priced at around $20 a barrel and natural gas was pricing around today's levels (before they rose in the last decade). But shortages in the first decade of this century led to a phenomenal increase in oil and gas prices and with them a surge in investment in supplies that had previously been too expensive to exploit. The main new unconventional supplies come from deep water, oil sands, and, of course, shale. What's more as these new supplies – particularly shale and deep water – were developed, research and development efforts spawned new technologies and techniques and brought down their cost dramatically. Poignantly depicting the results of these unconventional supplies are the growth rates in new versus older production. Russia, a traditional conventional oil supplier and the world's largest oil producer (the U.S. has surpassed Russia as the largest gas producer) has seen its production increase by 5 percent since the beginning of this decade. Brazil, whose production is mainly from deep water, has had output growing by more than 25 percent in the same period. Canada, whose production growth comes from oil sands exploitation, had production growth of over 40 percent since 2010, while U.S. production has surged 75 percent. But with lower prices have come significant cuts in capital expenditures on finding and developing as well as on maintaining production both of conventional and unconventional oil and gas. The large oil companies appear to have been following two different paths in this regard. Some have been accepting a world of lower prices and have cut upstream capital expenditures quickly in order to preserve dividend returns to shareholders while paring down expenses, with a focus on lower cost exploration. Others have emphasized the strength of their balance sheets, preferring to weather the cycle and maintain spending even on higher cost projects. What's clear is that some 80 percent of high cost LNG, deep water and oil sands projects would work at today's prices and 30 percent won't work at $70 oil. So far, capital spending is down across the world by about 18 percent from 2014's $250.1 billion. The largest cuts are coming from North American Exploration and Production Companies (E&Ps) who have reduced spending by almost 30 percent, down from $41 billion in 2014. Capital spending programs alone don't tell the whole story, though, because the services sector is absorbing a significant part of the reduction in capital spending and because companies are focusing their spending on highly productive, cash-generating projects. One example of how the drop in drilling is itself a misleading indicator comes from data on the U.S. shale plays. In the large U.S. plays, about 70 percent of drilling produces 30 percent of new production, while 30 percent of wells drilled are responsible for 70 percent of production growth. So while service companies will suffer, production will likely still grow, if at much lower levels. Beyond the impacts on the drilling industry, there are other significant consequences of the drop in oil revenues, as highlighted below.

THE ECONOMIC DECLINE OF THE PRODUCING COUNTRIES

There is a renewed focus on petro-dollar "recycling." The period of high prices since the middle of the last decade has enabled a number of oil producing countries to increase savings through earnings gained by their central banks and sovereign wealth funds. The wealthier oil producers in the Middle East have curtailed their infrastructure projects to some degree, but but many continue their robust spending by drawing down on savings. To the degree that GCC countries confront budget deficits in 2015 and beyond through continuation of their infrastructure projects, flows into treasuries and equities will reverse. It remains to be seen how large these reversals will be. Estimates range from a modest $7.5 billion in GCC divestments over the next year – the first such divestment of petrodollars in 18 years according to the Institute for International Finance – to a more robust amount of over $100 billion. At the same time, these same countries are reviewing spending and curtailing some plans. Only in Kuwait are there plans to increase the number of foreign workers in the country. For the other GCC countries, the plan is to reduce the foreign work force considerably, with significant potential knock-on effects through remittance payments that could severely impact Bangladesh, Egypt, India, Jordan, Lebanon, Pakistan, Philippines and Yemen, and other countries.

BUT THERE'S ALSO GOOD NEWS…

As in all dramatic changes in oil prices, the losers tend to be asymmetrically concentrated in the oil producing countries and in the oil producing companies themselves, as well as in sectors, like drilling services, immediately dependent on their spending. The benefits tend to be far more diffused across the globe—the $1 trillion plus pain we noted above is also a significant "quantitative easing" program for the rest of the world, and low prices have a significant impact on global growth. Recently, due to pessimism associated with problems in emerging markets in recent years, there are many who doubt that the jolt of lower prices will be all that significant on global growth in the year ahead. However, the IMF, World Bank and Institute for International Finance have undertaken studies to try to discover the magnitude of the positive impacts. In general the impacts of lower prices are positive for consumers, interest rates and corporate earnings. That's because the impact can be fairly significant for global growth. Most of these studies point to a positive impact on global growth amounting to as much as 0.6 percent of GDP by this time next year. That means that if current expectations are for global GDP growth of 3.3 percent in 2016, lower prices could boost that to as much as 3.8 percent by Q2 and Q3 of next year. And with this increase in global growth could come an additional 300- to 400-k b/d of oil demand growth, which also would have the benefit of moving the market to balance and restoring prices to a higher level, even if it remains significantly below the heights above $100 per barrel seen in recent years.

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MULTIPOLAR UNIVERSE

Those who bet on uncertainty

by ROBERTO BOCCA

Oil price fluctuations are not a new phenomenon (some may remember that at the end of the nineties the oil price dropped below $20 per barrel). The reasons for this include demand, supply, geopolitical tensions and OPEC intervention. Does that mean it is only a matter of time before the recent dramatic fall is significantly reversed? Not necessarily. The long-term outlook is complicated by at least four factors that have not featured in past market shifts. First, there is a wider range of options than in the past. Not only are there increasingly economically viable alternatives to fossil fuels, but the supply of fossil fuels themselves can now come from alternative sources and countries, in the shape of shale and deep water. Second, we seem to be on a firm trajectory towards the electrification of society, also made possible by the abundance of natural gas, with new technologies being developed and the grid being digitized. While cheaper oil may slow the uptake of electric vehicles in the short term, advances in the medium term will add to the pressure for efficiency in internal combustion engines – currently, an estimated million barrel of oil is wasted in the US alone due to traffic congestion – which will further reduce demand for oil. Third, pressure to take action on climate change is stronger now than it has ever been, and the business world is actively responding. More and more companies across the energy spectrum, from oil and gas to utilities to energy technology and renewables, are putting forward proposals. Several are even advocating a clear carbon pricing policy, with defined trajectory of costs, as a possible solution. The UN Climate Change Conference, COP21, in Paris at the end of this year may be a significant milestone.

A FUTURE IN LIGHT AND SHADOW

Finally, in the energy sector as in every other walk of life, there is a big unknown about the potential future impact of fast-developing innovations in areas such as big data, nanotechnology and artificial intelligence. Some implications can be imagined, such as improvements in efficiency from better traffic management, optimizing the grid and reducing mistakes from human error – but there will likely also be implications nobody has yet thought of. None of this is to guarantee that the lower oil price is a structural change for the long term. However, it is at least plausible that we are seeing the development of a "new normal", with the power of OPEC changed by the rise of oil and gas in North America and other geographies and the growing viability of a broad range of alternatives. From this view, the recent fall in oil price could signify that, as we are seeing signals of geopolitics becoming more multipolar across the globe, perhaps the energy world in transitioning to multipolarity, too.

RECENT OIL DYNAMICS

One way of looking at the situation is that there was an oil bubble that has now burst, and the market has been testing the bottom – the lowest price that market conditions would support. As most people will know, the price of oil has approximately halved in the past six months, after three and a half years of relative stability in the range of $90-$110. Still, the fundamentals did not support the high price range, at least in the last period; instead it was a bubble kept inflated by two factors: projections of high future demand in emerging markets, especially China, and expectations of future difficulties in production. In reality, neither has materialized to the expected extent. Demand has not been as high as was projected – as reflected also by the falling prices of other commodities in recent months. And production has been higher than many expected, in spite of difficult geopolitics, and in part due to significant amounts of North American shale coming on stream, with more to come in future years.

MORE TRADING AND STRATEGIC RESERVES

The bubble burst as the markets realized that OPEC would not be the first to cut production in a bid to shore up prices, fearing that they would merely lose market share to wealthier economies such as North America.

This is not to say that OPEC will not cut production in future – just that they will not make the first move. Cuts in oil production will still happen, due to decisions oil companies are now taking to reduce their capital expenditure, but this will be a slower process than if OPEC had led the way with cuts in one or more of the 12 member countries. Another factor increasingly affecting oil prices is the growing role of traders, which have become more powerful in the oil value chain in the past few years, taking significant positions in storage and also in the upstream and downstream sectors besides paper trading. In fact, in recent months the market has been in "contango" – that is, the price for delivery of oil in the future is higher than today's price. So buying oil now and storing it to deliver later for a guaranteed higher price is a straightforward decision. Countries have also used the price depression to increase stock for their strategic reserves.

Ostensibly, the higher price of oil on the futures market points to market belief that the bottom has already been reached. On the other hand, only so much oil can be physically stored, and this additional demand for storage may be artificially preventing prices from falling even further. Have we already touched the bottom and started to bounce back, or does the price have further to fall? For how long will it remain relatively low, and what will be its new range of fluctuation? The answers to these questions matter to companies, sectors, countries – and the global economy.

TOWARDS AN EVOLVING SCENARIO

Overall, the oil price drop is clearly positive for the global economy. We can expect that growth recovery in China and India – between them home to about half of the world's population – will be boosted, and with it their social strength and ability to contribute to future global stability. Europe's flagging economies will also receive a much-needed shot in the arm. Still, the lower oil price – and the transition to a multipolar energy world which it arguably portends – will be better news for some countries, sectors and companies than it is for others. Notably, the role of OPEC is changing, led by vast hydrocarbon production in new geographies (mainly North America). Along with other international players, first and foremost the International Energy Agency, OPEC is adapting to an evolving reality where other organizations have greater influence over the markets →

and the energy world at large. In the private sector, aviation and chemicals are among the industries that will benefit. For oil and gas companies, the pressure for stronger capital discipline may lead to a new phase of consolidation and mergers and acquisitions. Firms with a lot of debt to be served will struggle, which creates opportunities for further growth for those with strong balance sheets.

THE SHALE REVOLUTION

The oil service sector will probably face a phase of transition, given the reduced amount of capital expenditure invested by the oil and gas companies. Nonetheless, a long-term view of technology and innovation will remain at the heart of the energy industry; think of how shale-related technologies were developed over several years until they became economically viable. There will still be pressure for efficiency gains, to bring down the costs of exploiting the most expensive resources which are now being taken out of production. In the energy sector more broadly, the effects are more limited. On the one hand, by making fuel cheaper for motorists, we can expect that lower oil prices will slow down the uptake of electric vehicles and alternative fuels such as biofuel. Other clean tech sectors, however – such as solar and wind power – are less affected, because oil is primarily used for transportation rather than generating power. From a country perspective, the oil price fall has gone hand in hand with the US dollar significantly appreciating against most currencies, lessening the impact for oil exporting countries that have seen their currency devalued against the dollar. Still, countries that rely mainly on oil and gas revenue – and have not saved for a rainy day – face a struggle and will need to rethink their modus operandi and differentiate their economy. Depending on the length and depth of the lower oil price, there has to be a risk of some heavily oil-reliant economies becoming failing states, with unpredictable consequences.

THE ROAD TO REFORM

For the United States itself, the key question is how long will the price remain below about $60 per barrel? At this level, around half of shale production is estimated to remain viable. Overall, the impact on the American economy is expected to be positive. In Europe and Asia the price of gas is indexed to oil through long-term contracts, so the oil price drop is also making gas cheaper. This may or may not have some negative effect on the renewables sector, but the main impact is likely to be a switch away from coal-fired electricity generation, as is happening in the US. In the ongoing debate about how best to reform energy systems to balance decarbonizing with securing access and supporting economic growth, the role of gas – as a cleaner fuel than coal, and cheaper than renewables – is widely considered to be key. Indeed, the falling price of oil and gas could help reformers who had already embarked on the task of rebalancing their countries' energy systems. The price drop presents a unique opportunity for economies that have been subsidising fossil fuels to reduce or eliminate these subsidies. This is already happening in countries including Indonesia, Mexico and Thailand.However, there is always the possibility of prices going back up again, which would create pressure to backtrack on such reforms. Reformers need to plan for this eventuality by deploying the money saved from subsidies in social and economic reform to the benefit of the population. In this way, the oil price drop may not only herald a more multipolar energy world, but a more balanced energy mix. ■

EUROPEAN UNION

Recovery doesn't arrive

by GUIDO GENTILI

The collapse of oil prices, generally welcomed and presented as "excellent news and a formidable recovery factor," has thus far produced only marginally better growth forecasts for 2015 and 2016. In October 2014, when oil was at $80, the Eurozone Commission hypothesized GDP growth of 1.1 percent and 1.7 percent, respectively, for 2015 and 2016. Subsequently, the price per barrel continued to fall, lingering around $50. But the new February forecasts of the EU Commission for the Eurozone have not warmed up much, raising only +0.2 percent for each year. Why so much caution and so little enthusiasm?

WHY WHAT HAPPENED IN THE '80S ISN'T RELEVANT TODAY

"Under normal conditions," explains Sergio De Nardis, Chief Economist of Nomisma, "the decline in crude oil is unambiguously positive news: the downturn increases both the actual income of consumers and the profits of companies in importing countries, and the pressure on their internal demand more than offsets the decline in exports to energy-supplying countries, driving the growth of GDP. This is what happened with the oil countershock of 1986, when the price of crude oil halved within a year, and fell by three-quarters from its peak in 1980. As a result, there was a stimulus of internal demand in industrial countries and a substantial acceleration of their growth rates." The problem is that this is now a different world, starting with Europe, which is in a prolonged phase of "exception," as De Nardis calls it. So even a positive shock can have a side effect which, in the case of oil has a name: deflation. With inflation at zero, or even negative in several European countries, the interest rates of the European Central Bank (ECB) also tend to zero, that is, the lowest possible limit, while a process of return from public debt is in progress. Under these conditions, observes De Nardis, the further downward momentum of price dynamics, provided by oil, threatens to further cut down inflationary expectations, driving up real interest rates and causing depressive effects on economies. The forecasts of the IMF and OECD are also very conservative. The drive to global economic growth, during which prices settle at around $50 per barrel, are estimated by the IMF at between +0.4 and +0.8 percent of GDP in the two-year period 2015-2016. In turn, the OECD forecasts around +0.6 percent. According to Stefano Ambrosetti at the research department of BNL (BNP Paribas group) one must not overlook the risk factors associated with the possible financial instability of exporting countries, nor that the benefits of the fall in prices could be realized, to a greater extent, by those countries with industrial economies in which high energy costs are a drag on competitiveness. The current oil scenario, explains Ambrosetti, is a result of a change in both supply and demand, in a joint occurrence of three key events: the weakening of global growth, which is associated with a slowdown in demand for goods and a lower energy requirement for production; an increase in production levels, resulting from the steady increase in US production; a change of OPEC's strategy (whose production amounts to approximately 37 million barrels, equal to 40 percent of the total oil supply) which, in the face of the fall in prices– especially under the pressure of Saudi Arabia – has decided not to reduce production, preferring to protect its production share rather than protect prices." Naturally, permanently low oil prices have a different impact on producing countries, the range of production costs being very wide: from the lowest levels of the OPEC countries (where, for Saudi Arabia, the cost of extraction is estimated at well below $15 a barrel) to the much higher levels of the US, due to exploiting the deposits of Light Tight Oil (LTO), from which most of the oil is extracted by using expensive hydraulic fractioning techniques that are also used for extracting shale gas. For the US industry, it is estimated that LTO ensures profits with a sales price of around $100 per barrel, while the current values would not be compatible with extraction. But, at a country level, says Ambrosetti, the financial sustainability of companies is only part of the problem. "Even countries with lower extraction costs must keep their public accounts in balance and, since the export of oil is, for many of them, the main component of budget revenues, the price of oil becomes a determining element." The map of critical issues is so broad and diverse. Russia has set the breakeven point at $110 per barrel, Venezuela and Algeria at $121, Iran at as much as $140, while Qatar, UAE and Kuwait are moving within a range of between $65 and $75. As an exception, Saudi Arabia has set a breakeven point at around $90 a barrel but has a huge possibility of resorting to reserves (holding approximately 17 percent of global reserves) and "holding on" to low prices for a long time.

RECOVERY IS ONLY POSSIBLE WITH A POLICY FOCUSED ON INVESTMENT

In short, a sharp and sudden fall of oil prices is not in itself a guarantee of growth, since never have so many variables been involved as they are now. Regarding their risk factors, insists Ambrosetti, "The effects can be measured on the exchange rate, interest rates and even on the international demand for goods and services by exporting countries, as well as on the international financial markets. Producing countries increasingly reinvest part of their proceeds by investing in financial assets and participating in the capital of companies operating in advanced countries. The decrease in profits from oil could therefore limit or even reverse the direction of flow, leading producing countries to drain liquidity from these investments." For Europe, in particular, there is a surplus of uncertainties. "Because recovery is not a stagnation in disguise (or masked by weak growth in GDP), it is necessary," says De Nardis, "to distribute investments. The Juncker plan does not have an effect; oil and other shocks have, under the depressed conditions in which Europe finds itself, limited impact. The need to support the monetary policy and an expansionary fiscal policy at a European level focused on investments remains central." ■

ITALY

An unexpected gift

by DAVIDE TABARELLI

For Europe, the collapse of oil prices is an unexpected gift, which arrives just at the time when it is most needed to reactivate the economy. The main driver of Europe's growth is industry, for which one of the most important factors is energy. After four years of modest growth, finally, in 2015, GDP is expected to grow by more than 1.7 percent, and one of the main reasons for this is the sharp drop in oil. The European Union consumes 13 million barrels of oil a day—its primary energy source at 36 percent of total energy consumption. The decline of European manufacturing in the last decade has been partially due to high energy costs, which have risen due to the increased dynamics of oil, gas and coal prices. To the downturn in the commodity markets, politics is added, by revolutionizing energy based on costly incentives for renewables and on strong environmental constraints on combustion. The European Commission itself, since the beginning of 2014, has changed strategy and has confirmed the need to strengthen the manufacturing sector, emphasizing that one of the major weaknesses is the price of energy itself.

AN OPPORTUNITY FOR EUROPE TO COMPETE AGAIN

The halving of oil prices offers Europe an opportunity to reduce the gap in energy costs with respect to those of its two main competitors, Asia and the United States. A significant share of the electricity produced in Europe is generated by imported gas with prices linked to oil. Electricity prices for small businesses in Italy and Germany are roughly €0.15 per kilowatt-hour, while their counterparts in the US pay just over half that at €0.08. For Chinese small businesses, it's as low as €0.05. A lot of gas is used directly in factories. The same spot gas prices in Europe, delinked from crude oil, are down, but remain close to €0.25 per cubic meter, compared with €0.10 in the US. Spot prices of Liquefied Natural Gas (LNG) have halved, also due to the fall in crude oil, and many loads are arriving in Europe where spot prices are squeezed. European factories will work harder, because a growing global economy will increase demand. The fall in oil to $50, compared with $110 at which it had stabilized in recent years, represents a saving – on the 4.2 billion tons of oil consumed per year – of $1,700 billion, approximately 1.5 percent of the global GDP. Cars are among Europe's biggest exports, and a drop in gas and diesel prices should facilitate both domestic and international demand.

WHAT IS HAPPENING IN THE COUNTRY THAT MAKES FERRARI AND MASERATI

Italy, Europe's second leading manufacturing country after Germany, depends on energy imports, primarily oil, at rate of roughly 80 percent of total energy use, one of the highest ever among industrialized countries, even despite the fall in energy consumption and the growth of renewables. The Italian energy deficit in 2015, with Brent prices at around $50-60, would be positioned at around €40 billion, approximately €29 billion less than it was at its peak in 2011, amounting to more than 2 percent of its GDP. Italy's gas and diesel prices are among the highest in the world due to high taxes. Compared to the peak in June 2014, consumers at the pump today pay approximately €0.30 less per liter, with petrol prices close to €1.5 per liter and diesel at €1.4 per liter.

The demand for gas and diesel remains high in the country of Ferrari and Maserati, even though it also has the highest share of compressed natural gas (CNG) cars and the smallest average engine capacity. The average consumption for motorists in Italy is 1,000 liters per year, which means a saving of approximately €500. There are more than 35 million motorists in Italy who are benefitting from a cheaper tank. In Europe, there are a further 300 million, another 200 million in the U.S., and a total of a billion worldwide. These drivers are ready to spend their savings at the tank on other things, providing a greater lift to the global economy than would the few hundred sovereign or speculative wealth fund managers now desperate for the collapse of the barrel, whose rise to $150 they had bet on for years. ■

A history OF UPS AND DOWNS

1929 — 17.6 $/bbl

The Wall Street Crash of 1929 had a tremendous impact on the oil market: the subsequent fall in demand led to a substantial surplus of supply, resulting in falling prices. Prices went from $17.6/b (in 2014 dollars) in 1929 to an absolute minimum of approximately $10/b in 1931.

1973 — 17.5 $/bbl

The Yom Kippur War signaled the start of an oil crisis. On October 17, it led to the unilateral fixing of prices by OPEC, which was followed by a drastic price increase. Between 1973 and 1974, prices rose by 217 percent, from $17.5/b to $55.6/b.

1978 — 103.1 $/bbl

Oil prices doubled within a year, rising from approximately $51/b in 1978 to $103/b in 1979 (in 2014 dollars), after the overthrow of Shah Reza Pahlavi in Iran and the rise to power of Ayatollah Ruhollah Khomeini.

1979 — 50.9 $/bbl

Outbreaks of tension, strikes and unrest in Iran caused a drastic drop in production. In November of that year, it fell to just 1 million barrels per day and, at the end of December, it stopped completely.

1986 — 31.17 $/bbl

In 1986, there was an "oil counter-shock": annual average prices fell to $31/b from approximately $61/b in 1985 and from $106/b in 1980 (in 2014 dollars). The cause was OPEC's decision to change from defending prices to defending market share.

1990 — 43 $/bbl

Iraq invaded Kuwait, triggering a crisis in the Persian Gulf. Annual average growth was limited, with prices at $43/b (in 2014 dollars). OPEC increased production to control increases.

1997 — 32.7 $/bbl

With the attacks of September 11, 2001, oil prices, after a slight daily increase, amounted to $33/b (in 2014 dollars), a decrease compared with approximately $39/b in 2000, due to the economic recession in the United States.

2001 — 28.2 $/bbl

The financial crisis that hit Southeast Asia caused a significant reduction in prices. In 1998, prices fell to $18.5/b in annual average (in 2014 dollars) from $28/b in 1997; this was the lowest level since 1973.

2006 — 76.5 $/bbl

The first UN resolution on Iran's nuclear program required the Islamic Republic to suspend all uranium enrichment activities by August 31. Others resolutions then followed, not only UN, but also bilateral and unilateral resolutions.

2007 — 82.7 $/bbl

In August, the subprime mortgage crisis erupted in the U.S, marking the beginning of a new recession for the world's leading consumer of oil. However, oil prices continued to rise, approaching, at year-end, $100/b (current values).

2008 — 107.3 $/bbl

The financial crisis went global. In July, Brent reached a daily record of $144/b (current values) but in August a rapid decline began. At the end of the year, prices had dropped more than $100, prompting OPEC to implement a record cut in production.

2009 — 68.1 $/bbl

2009 goes down in history as a year of deep economic recession. For the first time since 1983, global oil demand showed a negative annual change nearing $1.2 million b/d (source: International Energy Agency - IEA).

2011 — 117.1 $/bbl

This was the year of the Arab Spring. By January, prices were already over $100/b (current values) due to the rapid spread of unrest in the Middle East and North Africa (MENA) region. In December, OPEC set an overall production ceiling of 30 million b/d.

2013 — 110.4 $/bbl

New and preexisting geopolitical tensions: Algeria and Iran vs. the West, Egypt, Libya, Nigeria and Syria. This generally worrying climage was, however, offset by abundant non-OPEC production.

2014 — 99.2 $/bbl

Prices in the first half of the year reached $115/b (current values), followed by a sharp decline to $55 at the end of the year. The Russia-Ukraine crisis and the advance of ISIS probably kept prices from going even lower. OPEC took an unexpected course when it left production unchanged in November.

Price source: RIE processing of BP statistical Review 2014 data for the years 1900-2013. The calculation of prices in 2014 dollars has been made using the CPI Inflation Calculator of the Bureau of Labor Statistics, U.S. Department of Labor. Source for 2014: Platt's.

This graph, based on annual average crude oil prices, aims to trace the major events that have affected the the oil industry since 1900. Annual average prices are expressed in constant dollars (2014). Crude oil benchmarks: 1900-1944 Average US prices; 1945-1983 Arabian Light; 1984-2008 Brent Dated

Roller coaster/A chronology of oil "prices"

From yesterday to today, the changing calculus of energy prices

The price of carbon fuel consumption can no longer be calculated in traditional economic terms of supply and demand

by GARY HART

As recently as perhaps two decades ago, only a small handful of visionary petroleum engineers foresaw the dual impact of shale fracturing (fracking) and horizontal drilling on global oil supplies. Even fewer foresaw the United States exploding virtually overnight, at least in historical terms, into the role of the world's leading producer of petroleum products.

The dimensions of the shale gas and oil revolution have yet to be measured. Some experts believe we are only in the early days of this revolution. At the very least, however, this revolution has eliminated "energy independence" as a hallmark political issue and goal in the United States. This dramatic reversal of roles and fortunes now presents itself in the political debate over whether the United States Congress should lift the current statutory ban on the export of United States oil and gas.

WHEN FOREIGN POLICY WAS LED BY CRUDE OIL

For decades, throughout much of the Cold War during the second half of the 21st century, U.S. dependence on oil from the volatile Middle East and Persian Gulf region drove much of its foreign and national security policy. An immense amount of strategic attention was directed at protecting U.S. and allied national and international interests in the Gulf region. Those interests were measured in volumes of petroleum imports.

It is not too much to say that the history of U.S. and allied attention to the Persian Gulf during the second half of the 20th century could be measured in their deployment of military and intelligence assets and capabilities, both on land and at sea, throughout that region. We wanted to protect our access to Persian Gulf oil but also deny the Soviet Union access to the same oil.

But, of course, the shale gas revolution of the early 21st century is just the latest chapter in the long-term roller coaster of world oil markets. From the earliest days of British, American, and other European investments in Persian Gulf oil production in the early 20th century, maximum effort went into stabilization of production and exportation, both for predictability of supply but also predictability of price. Especially following the reconstruction of Europe and Asia following World War II, demand for petroleum was central to the creation and recreation of national economies. That war and its aftermath had the affect of widening and deepening the centrality of oil to international economics

WHEN PRICES HAVE SKYROCKETED

But soon the roller coast began. The increased activity of the Organization of Petroleum Exporting Countries (OPEC) in the mid-1970s assured the governments of oil producing nations of control of supply and thus of price. Prices spiked and Western economies, including that of the United States, shuddered. Supplies dropped but demand did not.

Soaring prices attracted increased investment in exploration and production, but also spurred initial searches for alternative energy supplies and raised interest in energy conservation. Then, in the mid-1980s oil prices dropped. By the turn of the century, large new energy-dependent economies, especially China and India, emerged. Once again, prices soared as demand exploded. It's against this backdrop that the U.S. shale revolution has taken and continues to take place. Within the past two to three years, dramatic increases in supplies have brought prices back down once more, to the enormous benefit of the economies of the United States, Europe, and others. But relatively inexpensive oil brings with it an incentive toward greater consumption and its attendant costs, most notably climate change and the carbon threat.

Relatively low oil prices thus represent a blessing and a curse. Consumers receive a cash reward, much like a tax break, from lower gasoline prices and thus have money to spend. Though the oil and gas sectors and their investors have, at least for the moment, been depressed, overall economies are benefitting greatly from new consumer confidence. And, were there even a slight degree more of political courage, this would be the perfect time to implement carbon taxes in developed economies. So far, that courage has been lacking, at least in the United States.

In the United States and elsewhere bizarre weather patterns are emerging almost overnight with cycles of violent storms in some areas such as the Northeast and Southeast, record droughts in California and other parts of the West, crop patterns visibly shifting, and large segments of the agricultural industry adversely affected.

Before the advent of the dark side of the Age of Carbon, beginning with the industrial revolution in the first half of the 19th century and producing its tangible adverse affects in the late 20th century, the role of carbon fuels was viewed as almost a one-dimensional market phenomenon. Prices rose, consumption fell. Prices fell, consumption rose.

NEW COSTS TO ASSESS: EXTERNALITIES

Now we confront what economists call external costs, carbon build up in the atmosphere, that has yet to be internalized into the cost of consumption of carbon fuels--coal, petroleum, tar sands, shale oil, and so forth. This represents the real revolution that must occur in calculating the economics of petroleum.

It is difficult to quarrel with the conclusions of an Economist article from January entitled "Seize the day": "The most straightforward piece of [energy] reform…is simply to remove all the subsidies for producing or consuming fossil fuels. Last year governments around the world threw $550 billion down that rathole…such handouts led to extra consumption that was responsible for 36% of global carbon emissions in 1980-2010." Coupling wasteful subsidy elimination with a straightforward tax on carbon would revolutionize energy usage and protect the planet.

Nature herself will force us, if not sooner, then later, to understand, accept, and address—politically and economically—the complete costs of carbon consumption. New cost measurements—pricing policies, production and consumption projections, supply and demand formulas, and profit calculations—will have to be devised to require political systems to deal with the new realities produced by carbon consumption.

This means that traditional one-dimensional economic formulas of balancing winners and losers, producers and consumers and supply and demand are swiftly diminishing in importance and relevance. A finite planet is producing danger signals that will be neglected at our peril, and if not ours, then the peril of our children and future generations. For the inexorable laws of Nature now force us finally to confront the reality that the price of carbon fuel consumption can no longer be calculated in mere market and traditional economic terms of supply and demand, but must also incorporate the cost of damage to Nature herself.

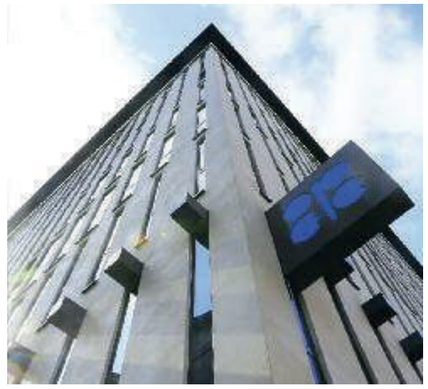
The visionaries of the 21st century will be less those who invent new ways to produce carbon fuels and will be more those who produce a new economic model for measuring energy that internalizes and incorporates the total long-term costs of production and consumption for us and for our planet.

Gary Hart is a former United States Senator. He is currently Chairman of the American Security Project and a member of the U.S. Energy Security Council.

The role of OPEC in relation to the new international order

by DEMOSTENES FLOROS

In August of 2013, in the face of America's imminent airstrikes on Syria, the situation within the oil market was summarized as follows: "Crude oil prices, which have been rising for some time, are now firmly above $100 a barrel. This is due to instability in Libya, Iraq and Egypt, an arc of crisis starting in the Maghreb and reaching the Persian Gulf. The intervention against Damascus would be the spark of the fire which, at that point, would involve the entire Middle East, a region that produces 23.3 percent of oil and 10.7 percent of gas available on the international markets and stores 29.9 percent and 20.3 percent, respectively, of proven reserves on a global scale." During the second half of 2013, the price of oil increased during times of maximum international tension and decreased as a result of its attenuation. From July 2014 to January 2015, oil prices fell by approximately 60 percent: is this trend perhaps the result of a reduction of international tensions?
On July 19, 2014, *Il Sole 24 Ore* published an article with a title that said it all: "America's lost hegemony." The author's theory was as follows: "When a civilian airliner is shot down in the skies of Europe over a war zone on the border of Russia and Ukraine, while the Israeli military forces give life to the nth invasion of Gaza within weeks of the proclamation of a new 'caliphate' between Syria and Iraq, there is only one warning we can gather: international order is collapsing." If this was the case, why has oil not incorporated the severe ongoing geopolitical risk, by increasing in price? Alberto Clò recently wrote that "the fall in prices was due, in essence, to two large orders of variables. Firstly, the increase in current supply and an oil production capacity (over 100 million barrels a day)…. Secondly, the structural destruction of demand in industrialized countries (2005-2013: -5.0 million barrels a day) and the cyclical slowdown in demand growth in emerging countries….. The determiners, in both cases, were the United States, from which, since 2005, all worldwide incremental oil production has derived (almost exclusively thanks to unconventional plays), while their net oil imports – their foreign demand – has collapsed since then by 7 million barrels per day (from 12.5 to 5.5)," equivalent to the amount of spare capacity. According to the author, "the surplus of geopolitical risks has been dominated by an even greater surplus of oil." In mid-2010 and 2012, the oil market – despite the presence of an excess supply significantly higher than the current one – has not yet produced a fall in prices of such proportions, which is why the existing imbalance between supply and demand does not justify the current extent of the fall in oil prices. The causes lie elsewhere.



Saudi Arabia's opposition within OPEC

In September of 2014, Saudi Arabia fixed the collapse of the barrel, cutting October selling prices of the crude oil list of supplies to customers (its Official Selling Prices) in order to defend its market share. This despite the fall in energy consumption and the growth of renewables. The Saudi action has, in turn, forced Tehran to reduce selling prices. Thereafter, during the OPEC summit in November 2014, Riyadh and the Gulf States were opposed to a decrease in output, although the secretary of the organization, the Libyan Abdallah El Badri, had "expected," since September 16, a cut in supply of 500 thousand barrels per day. The Iranian Oil Minister, Bijan Zanganeh, had also said that "OPEC members should try to moderate production to avoid further instability." Lowering the price of crude oil primarily affects the state budgets of the Russian Federation, Iran, and also of Venezuela, Ecuador and Nigeria, more than the Gulf countries, whose break-even prices are the lowest among OPEC members (Kuwait $75 per barrel, United Arab Emirates $70 per barrel, Qatar $65 per barrel). The $93 per barrel equivalent to Saudi Arabia's equilibrium price are not a problem, given the country's more than $720 billion of foreign currency reserves. In fact, through the reduction of energy income, Saudi Arabia and its allies are placing Iran, which they are confronting, in great difficulty, from both a political and military point of view, albeit indirectly, in Iraq and Syria. The collapse in oil prices affects North American tight oil and also shale gas to the extent that such production is economically sustainable only with prices higher than $7 5/80 per barrel. In truth, the main limit of unconventional oil resides in the high rate of depletion of wells, between 50 percent and 85 percent during the first year, even before the risk & performance ratio (financing costs) and in the barrel market prices. Therefore, in the event that we were to reach the peak of fracking, one should not exclude the hypothesis of a tacit share in the energy field between Riyadh and Washington – as occurred in 1986 in opposition to the Soviet Union – with a common anti-Iranian and anti-Russian purpose. It follows that the differences existing within the Organization of Petroleum Exporting Countries express and even influence the ongoing conflict between the United States and the Russian Federation.

Monetary policies and speculation

A third, largely neglected, element that has affected oil prices is the role of monetary policies and speculation. In fact, it is quite likely that with the end of the Fed's quantitative easing, many brokers have shifted their investments from oil to the dollar. U.S. Treasury Bonds currently yield more than inflation, contributing to the greater appreciation of the American currency. A further downward pressure therefore comes from the increase in value of so-called "put options" (right to sell) by producers, which had previously insured banks and/or investment institutions from risk due to price volatility. According to a study published by the IMF, it is estimated that speculation may have contributed to the trend in oil by between 3 and 22 percent.
The January 23, 2015 death of Saudi King Abdullah and the appointment of the new monarch, Salman (which occurred at the expense of Prince Bandar bin Sultan, former head of intelligence and ideologist of the war in Syria) will not, in all likelihood, change Riyadh's energy policy but, at most, the balance of power within the country. In the medium term, if the United States fails to maintain its current output (a trend suggested showing a decline in drilling and the first failures of fracking companies) the global oil supply could become less stable, and the hypothesis regarding the role of the U.S. as swing producer may not come to light. ■

A geopolitical analyst, he is a professor of the Masters' in International Relations Italy – Russia, at the University of Bologna Alma Mater, as well as being the head and professor of the third course in Geopolitics, established at the Open University of Imola (Bologna). He collaborates with the Energy International Risk Assessment (EIRA) and geopolitical magazine *Limes*.

Energy markets: between old challenges and upheavals

IAI
Istituto Affari Internazionali

by NICOLÒ SARTORI

The dramatic decline in oil prices, falling more than 50 percent over the last six months, brings with it a number of important questions regarding the fate of the energy markets. On the one hand, in fact, the events of the last half-year seem to confirm the impact of technological-industrial dynamics on the functioning of the global oil industry. These add to the growing role of the financial markets in defining investment priorities in the sector. On the other hand, oil at fifty dollars significantly resizes the power of traditional energy producers, which are unable to act (and are partly uninterested in acting) in a coordinated manner in order to deal with the fall in prices. For many of them, the changes taking place at a global level raise the difficulty of such internal political and socio-economic balances that are, to date, guaranteed by the huge oil revenues of recent years. However, it remains unclear whether these are passing phenomena, determined by a combination of important economic factors, or whether this is the beginning of a new era for the global energy sector, supported by the consolidation of structural factors that are capable of radically changing its functioning.

The role of technology in the global energy equation

The unconventional revolution in the United States is certainly the main driving force of these changes. The combination of technologies for hydraulic fracturing and horizontal drilling has not only brought new volumes of crude oil to the market, raising global supply. The shale revolution has, in fact, strengthened, in an astonishing manner, the weight of the technology variable in the equation of the production of hydrocarbons, changing the production models and increasing growth prospects. On the one hand, effectively, is the central role of small independent producers, service companies and the financial sector, which are capable of acting much more dynamically and efficiently in the oil market than are the large national energy companies. This situation contributes to the creation of a market that is increasingly fluid and difficult to control, but at the same time has more flexibility on the supply side. On the other hand, the changes with regard to America help to strengthen the perception that, thanks to the technological progress and initiative of industrial (and financial) operators, those reserves that, until some time ago, seemed to be nearing exhaustion, can instead last for decades. Although the replicability of this model outside of the American continent is still to be verified, the expansion of unconventional production in other areas rich in deposits, such as in China, could further revolutionize the current energy balances.

Producers have difficulty adapting to market changes

The collapse of oil prices has demonstrated the great vulnerability of producers in dealing with the fluctuations of a market that they no longer seem able to control. OPEC itself, having left its November 27 meeting last year broadly divided, has essentially abdicated its role as regulator of the oil markets and as price stabilizer. Even in the past, the Organization had shown internal divisions among its members, but the inability to overcome individual interests in the face of the emergency situation of the past months seems to mark a turning point. Although the cartel still controls a large part of the hydrocarbon reserves (the conventional ones at least), its ability to adapt and to ensure a "policy" guide to the functioning of international markets is now more doubtful than ever. OPEC's disorientation is the result of negative dynamics within most of the producing countries. The public budgets of countries such as Venezuela, Iran and Nigeria, whose equilibrium is based on crude oil prices well above $100 a barrel, are the emblem of a model that can barely be maintained in the face of the ongoing evolution. The internal socio-economic difficulties that could arise are a serious threat to the already fragile political stability of many of these countries and are an element of uncertainty regarding their ability to contribute to global output. Accompanied by the natural reduction in investments in exploration and production activities that has followed (and will follow) the decline in crude oil prices, this situation could lead to a faster return to a state of balance between supply and demand and, therefore, to stabilization towards the high value of oil.

Radical transformations or cyclical events?

It remains to be seen, however, whether this situation is really the result of a radical change in the functioning of the energy markets and can, therefore, have long-term implications, or whether it is simply the nth cycle, determined by mechanisms of supply and demand intended to exhaust its effects within a relatively short time. Some key elements are expected to change substantially. As mentioned, the greater flexibility of supply ensured by unconventional production guarantees a better market response, whether in the event of shortage or abundance. To this, structural changes on the demand side are added, the growth of which will tend to slow down: the process of decarburization, which started in the West (firstly in Europe), through investments in renewables and energy efficiency, will be progressively replicated in other parts of the world. The energy transition will not only affect energy-consuming countries such as China, but also the producing countries, the unsustainability of whose energy models is highlighted by the budgetary difficulties caused by the collapse of oil prices. Despite this, some factors will remain unchanged. Firstly, the heart of production will remain conventional and, as mentioned, the fall in prices will lead to a significant reduction in investments and thus a progressive decrease in supply. The International Energy Agency's negative forecast on the output of Russia – which is at the same time affected by economic sanctions, the fall of the ruble and the collapse of crude oil – is only one of the possible problems that may affect the oil markets. Even geopolitical dynamics will not easily leave the scene: just think of the threat of the Islamic State on the rosy prospects for the expansion of Iraqi production. The global energy sector, therefore, is now in a state of limbo between epochal changes and old dynamics. It is particularly difficult to predict how long this situation will last and what effects it will have for its key players. ■

He is Senior Fellow and Head of the Energy Program of the IAI, where he coordinates projects on the issues of energy security, with a focus on the external dimension of Italian and European energy policy

The welfare of Arab countries: between tradition and modernity

by ROBERTO DI GIOVAN PAOLO

Recent data relating to welfare expenditures in many Arab countries, what some call the Greater Middle East, suggest that Keynes has lasting fame in this region, more so than in that of his birth, or in the more "classic" West. The figures are huge, and one need only understand that they involve billions of euros, or dollars, in order to understand how the phenomenon of welfare in the Arab countries is really a "phenomenon" that is worth analyzing. Of course, there had already been welfare "phenomena" in 2011, when, in conjunction with the uprisings, protests and real or alleged "revolutions," payments of $4,500 per family in Kuwait and $2,500 per family in Bahrain were reported on the internet, as was the indiscriminate increase in public salaries in Jordan, Syria, Libya and Saudi Arabia, the latter country to which increases in unemployment benefits and "overhead" aid for poor families must be added.

The request for more effective public service

The news that circulated, especially on the internet, showed a decade of imperious growth, an increase of almost 400 percent of wealth produced, for example, in the six Arab monarchies, which certainly would not go unnoticed. It is difficult for them to deny their own wealth on the internet, as may have been possible when they controlled their country's few media. Just as it is difficult to control word-of-mouth when there are thousands of "brothers" around the world who become aware of the astonishing cost of football teams and players in the West, whose fame is unstoppable. In this context, is it therefore legitimate to want some extra "public" service? It is hard to escape questions without increasing public salaries, ensuring fantastic infrastructure, and participating in tenders for Olympic Games and world championships of any specialty, provided they fall within the idea of "bread and games." Of course, not everywhere has been like this and not every year was (and will be) like 2011 when, only in Riyadh, a 44 percent increase in energy exports was recorded on a two-year basis, generating revenues of almost $200 billion, up against a little welfare to alleviate the absence of an "economic boom," which, for over seventy percent of citizens, involved a huge but necessary immediate and practical welfare task: new housing and more than 50 thousand new jobs, only in the Ministry of Interior. Not to mention the financing of religious aid and rescue communities among which – just then – the first political recruitment had certainly started which today swells the ranks of Islamist radicalism.

Well-being that comes with economic expansion

The story of other Arab OPEC countries during this period is similar: a decade of record income, a suffering conscience, a series of uprisings, the risk of an uncomfortable public debate, religious radicalism that is theocratic or Caesaropapist [supporting authoritarianism and autocracy] in nature is of little importance; finally, the decision to invest collectively in the latest laws of economic expansion in the OPEC countries that spent, according to many observers, between $100 and $150 billion in 2010-2011 on a welfare much more similar to Peronist excessive state aid than to the labor (or even conservative) welfare state after World War II. Even today, in the middle of a crisis, social spending amounting to billions of dollars continues— one cannot fail to take into account geopolitics and the challenge that, for example, the Islamic State represents. However, it would also be deeply unfair to simply liquidate everything as an action directly proportional to the rise or fall of the petrodollar. Firstly, it must be remembered that in Arab countries, and countries under Muslim influence, the topic of social sustainability, or of goods available to the public (Waqf) or of fraternal religious charity within the context of the Muslim religion (Zakat), is an old and yet very timely topic. Zakat goes to the most needy, to the lowest in society, to the destitute. Waqf involves a tradition of providing, by private means, one's own assets for public use (originally houses and buildings in the olden days, today, the physical foundations or intangible assets with which our financial markets are familiar). The difference between the use of a private property without rent for the family that provides it, and one with rent, as interpreted in some Arab and/or Muslim societies, reveals little to us about the collective well-being and community found in the history of these countries. and it does not come from the modern Keynesian welfare state but, maybe, has returned, along with the uprisings of recent years, which we have all witnessed.

A tradition that confronts modernity

The welfare of Arab countries has its origins in history and its roots go beyond the modern ones of the post-World War II era. It was not founded today nor during the years of affluence (and oil crisis) that led OPEC to attract the world's attention in the 1970s. Neither is the welfare of Arab countries the direct result only of the decade of spectacular growth of oil energy revenue from 2000 to 2010. And it has not sufficed only to revive the tradition by eliminating religious Muslim radicalism, nor to diminish the social gap in order to avoid social unrest and the so-called revolutions of 2011. Having said that, we should also remember that the attempt to provide welfare and not only social assistance, in states such as Morocco or Egypt and Tunisia which, in the last one and half centuries has also offered a chance for comparison with modernity and opportunities and errors of a progressive, but not necessarily irreversible, secularization, with respect to both tradition and religion which also, in some ways, is against too "sacred" an idea of the state itself. The challenge of welfare in Arab countries, as we have tried to illustrate, is not that (at least not only that) of the extraordinary figures, but that of a comparison with modernity and with acceptance in it of citizenship – a right-duty of citizenship – that nobody "Western" (or even Asian or Australian, so to speak) wants, but that in any case must not be equated to Zakat, or to charity, should (must?) necessarily assume the public and community role that appertains to the great Arab and Muslim tradition of Waqf. ■

Journalist, he has collaborated, among others, with Ansa, *Avvenire* and *Famiglia Cristiana*. He was Secretary General of the Italian Association for the Council of European Municipalities and Regions. He is a lecturer at UNINT University of International Studies of Rome.

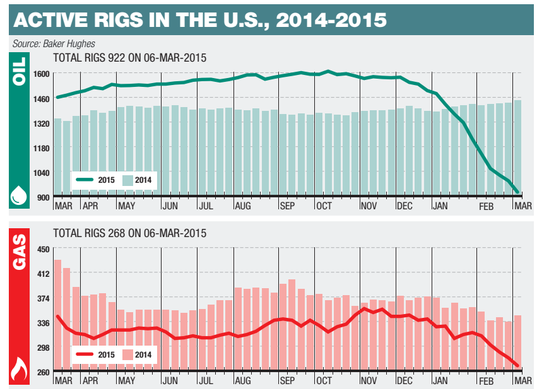
THE TREND OF UNCONVENTIONAL SOURCES IN THE UNITED STATES

The silence of drills

With OPEC's failure to cut crude oil production, U.S. fracking has become less economically viable, leading to a reduction of rigs and a cut in exploration of new oil fields

by JAMES HANSEN

The North American oil business is playing a new lottery that even has its own Twitter "hashtag": #rigcountguess. Since Saudi-led OPEC decided at the end of last November not to support international crude prices by reducing production, the bottom has fallen out of the market, sucking margin from relatively costly American fracking production and making drilling new wells economically unattractive. The result has been a spectacular collapse in the number of drilling rigs in operation in the United States; a trend so marked and so alarming that attempting to guess just how bad it can get has become a major oil industry sport - something like "fantasy football," but about real money. Baker Hughes, an American petroleum service company and the industry source for data on the number of rigs in operation, has been charting the nosedive. The end of the would came in the first half of February, when the company released data indicating that in the single week ending on the 13th an incredible 98 drilling rigs were taken offline in the U.S. According to Baker Hughes, worldwide developmental drilling activities were off as well, though to a much lesser degree than in North America. International drillers pulled a total of 55 rigs in the month of January.
Since then, the decline appears to have slowed, though it certainly has not halted. By the first week in March, Baker Hughes data were showing that the number of oil and gas rigs in use had fallen to 1,192, a 33.5% drop year on year, representing a loss of 600 rigs over the period.



High operating costs resulted in a dramatic decline of active fracking rigs in the U.S. According to surveys conducted by Baker Hughes, 36 percent fewer rigs for the extraction of crude oil and 22.3 fewer rigs for the extraction of gas were in operation in March of 2015 than in the same month a year earlier.

Stable production but reduced employment

What is not clear is how much this all really matters for American producers – at least for the moment. Though the collapse in oil prices is thought to have wiped out as many as a hundred thousand oil jobs worldwide in once busy drilling centres like Scotland, Australia and Brazil, the negative impact hasn't yet appeared in U.S. employment data and American oil production is still at its highest seasonal levels in decades. Employment impact is probably only a question of time. Recent data on advertised employment vacancies suggest that job searches for experienced oil field workers have begun dropping sharply. Jobs though are only part of the story. Rigs are used to explore new deposits and to drill new wells, so when rig counts decline – especially as sharply as they have in the U.S. – production over time will inevitably be affected. In the meanwhile however, fracking rigs have become more efficient and U.S. shale wells have been showing higher yields – and perhaps most important of all, the rigs being taken out of service are typically the least productive. With increasing efficiency, rig counts do not necessarily have a direct effect on how much oil is being produced.
Goldman Sachs analyst Damien Courvalin said in a client note that the current decline is not enough to dent U.S. production, writing that: "The rig count decline is still not sufficient, in our view, to achieve the slowdown in U.S. production growth required to balance the oil market." But if American production is holding up, the crashing rig count is terrible news for oil service companies like Swiss-owned Transocean, a specialist in undersea drilling technologies quoted in New York. The company's CEO, Steven Newman, was forced to resign suddenly on February 15 as the stock markets drove down oil service sector share prices.

New negotiations between Russia and Saudi Arabia

Nor have OPEC and the Saudis been doing as well as hoped out of the pressure they had expected to bring on surprisingly resistant North American production. There are indications that Saudi Arabia may now be looking for a way to back out of the decision to "keep on pumping" reached in Vienna. Russia, in very serious economic difficulties with crude trading today at only half the price the Putin government expected, lobbied strongly against the OPEC decision, but was not prepared at that time to pay the Saudi "reserve" price: the withdrawal of Russian support for the continued survival of the regime of Syria's Bashar al-Assad. Indications are that new negotiations are now underway between Putin's Russia and Saudi Arabia. An unnamed Saudi diplomat told the New York Times recently that: "If oil can serve to bring peace in Syria, I don't see how Saudi Arabia would back away from trying to reach a deal..." Both suspicion that "peace in Syria" may be the peace of the tomb for the Assad regime and uncertainties about the degenerating situation in Libya have helped push the benchmark Brent price back up to around $60 a barrel, but it may be too late for OPEC's anti-fracking hopes. The Arab producers, perhaps emotionally more familiar with the lengthy technological cycle and high cost of traditional "vertical" drilling and extraction, may not have fully realised that American fracking rigs may be able to come back online nearly as rapidly as they are being shut down – whenever oil prices return to a point where it's worth throwing the switch. That's because fracking, unlike conventional extraction, is based on multiple inexpensive, short-lived wells. Producers can stop and start drilling easily and cheaply, allowing them to rapidly cut costs in a downturn. By the same token, every time prices tick up, so can output, flooding the market with new supplies. Allen Gilmer, the CEO of petroleum analytics firm Drillinginfo, told the Bloomberg Agency that: "This whole episode has really highlighted the robustness of unconventional producers in the U.S., who can ramp up and ramp down. If the point was to test the shale players, it probably has not worked out as assumed." The unexpected self-correcting nature of shale production in the face of dramatically changing market prices has led many analysts to conclusions similar to those of David Foley, the head of energy operations for Blackstone Group LP. He thinks that barring a major geopolitical surprise, the market will "just have to wait" for the gap between supply and demand to narrow again. ■

He is a consultant for major Italian companies for financial communication and international relations. American, he arrives in Italy as Vice-consul in charge of economic affairs at the US General Consulate in Naples. Become a correspondent for some big heads of the foreign press, including the International Herald Tribune. Subsequently he was appointed spokesman for Carlo De Benedetti, Silvio Berlusconi and then chief press officer for Telecom Italia

MARKET TRENDS

OPEC gives way to the market

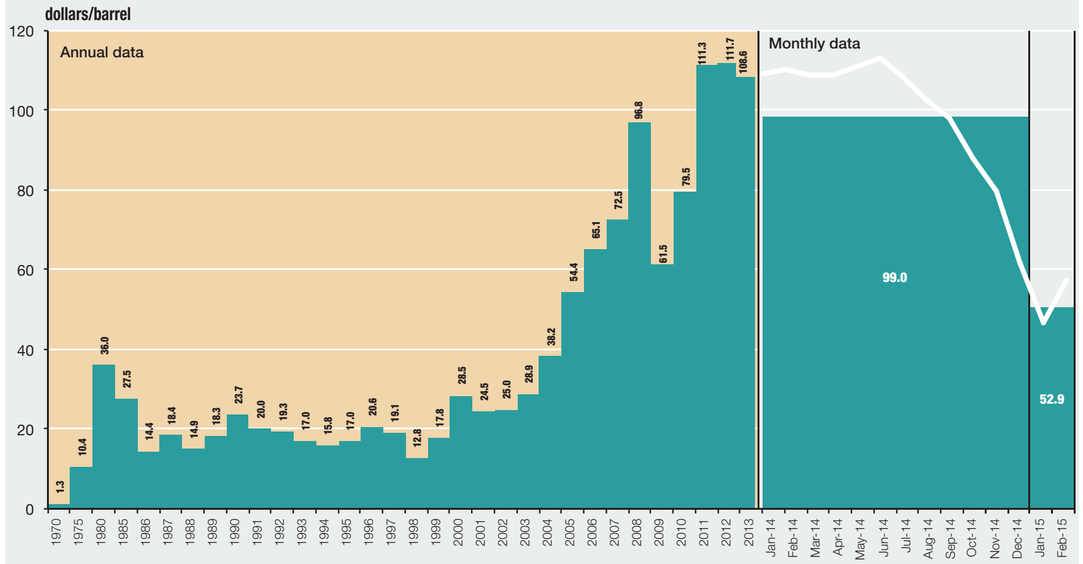
After seven months of decline, Brent recovers due to cuts in the upstream sector

Crude oil prices

The average price of Brent in 2014 was $99/b, down $10/b from the previous year. Prices fell by approximately 50 percent in the second half of the year, closing in December at $60/b. U.S. production, which continues to set records, and a growth rate in demand at its lowest since 2009, combine to generate a large surplus in supply. The new OPEC policy of "non-intervention," approved at the end of November, further weighs down on the price. Saudi Arabia, driving the cartel's decision, aims to protect its market share against geopolitical (Russia and Iran) and commercial (U.S.) rivals. The country's stated goal is to "shake the market in the short term" to boost growth in demand and, above all, to slow down non-OPEC expansion (U.S. tight oil). The simultaneous strengthening of the dollar, to maximum levels of the last two years against the euro, contributes to the decline. In a context of strong uncertainty, financial operators reduce exposure in buying on futures markets. The rapid fall in prices widens the contango, promoting the accumulation of crude oil stocks, which closed the year at the highest levels in both Europe and the United States.

In January, the price decline continued, breaking the threshold of $50/b and, due to the drop, analysts have revised forecasts for 2015. In February, after seven months of decline, Brent rebounded, recovering over $10/b compared with the average for January and stabilized, in the second half of the month at around $60/b. The price rally is mainly due to two variables that have an impact on the development of future supply: the cuts in capex in 2015 declared by companies, resulting in postponements or cancellations of upstream projects, and the gradual decline in oil rigs (drilling plants) in the U.S., a thermometer of E&P activity. In particular, in the U.S., a downsizing in production is expected in the second half of the year. At the end of the month, the Saudi minister was optimistic regarding the recovery in demand and on the effectiveness of the new OPEC policy; according to Naimi, $60/b is a suitable price to ensure the rebalancing of the market. The continuous accumulation of crude oil stocks remains a bearish signal, especially in the U.S., where levels are at their highest, historically and seasonally. In the wake of expectations of stronger demand and reduction in upstream investments, at the end of February prices seem to have hit a floor.

BRENT PRICES

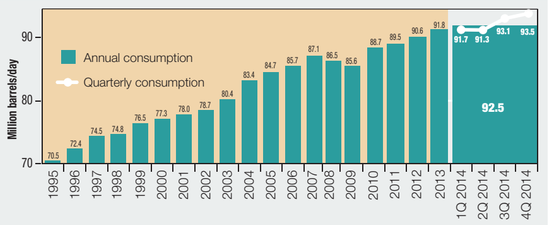


Source: IEA, Arabian Light spot price (1970-1985); IEA, Brent spot price (1986-1987); EIA-DOE, Europe Brent spot price FOB (from 1988)

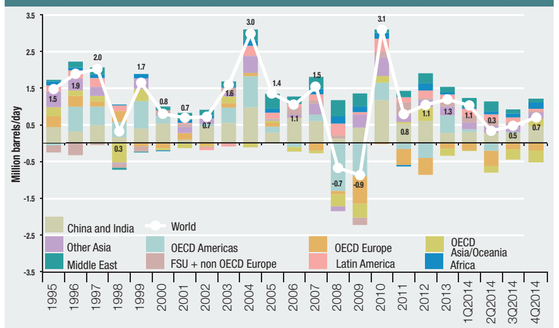
Oil demand

In the fourth quarter of 2014, global oil demand reached a level of 93.5 Mb/d. After the sharp slowdown in the second quarter, a continuously strengthening dynamic is evident in subsequent quarters. OECD demand shows diverging trends: weak consumption in Europe (-0.2 Mb/d) and in the Asia-Oceania area (-0.3 Mb/d) continues, while growth in the America OECD area (+0.2 Mb/d) is evident. In the U.S., more robust economic growth and a significant decrease in oil prices (drop in crude oil prices and low taxes) in the second half of the year are the basis of the increase in consumption. The falling price of gasoline drives American consumers to increase mileage and to purchase larger and more powerful cars (+10 percent SUV sales in the fourth quarter). The positive impact on consumption from increased SUV sales remains mitigated, however, by efficiency policies/measures in private and commercial transport. In Europe, demand remains in negative territory due to the fragile economic situation. The reduction in crude oil prices positively affects private and industrial consumption, but a strong dollar and high tax burden (excise and VAT) reduce the benefit. The drop in demand in the Asia-Oceania area is linked to the deteriorating economic situation in Japan. In particular, the demand for fuel and the use of fuel oil and crude oil in the power generation sector are falling significantly. Demand in non-OECD countries reached 47.2 Mb/d in the fourth quarter of 2014, showing the lowest increase of the year. In mid-2014, non-OECD, while remaining the engine of global growth, increased by less than in recent years (1.1 Mb/d in 2014 vs 1.6 Mb/d annual average in 2009-2013). In China, the economy is going through a transition from a model oriented towards the development of industry and exports to a model focused on services and, therefore, on domestic demand. This results in lower economic growth rates (7.4 percent in 2014 vs 9 percent annual average in 2009-2013) and oil demand compared with the past (+0.3 Mb/d in 2014 vs +0.5 Mb/d annual average in 2009-2013). Even the Chinese car market has decelerated, although rates still remain in good standing (vehicle registrations +10 percent vs +17 percent in 2013). At the root of this slowdown are restrictions on sales, which have now been adopted in major cities due to the problems of congestion and urban pollution. Overall, in 2014, global demand increased by 0.6 Mb/d, the lowest increase since 2009 and, for the first time, demand of non-OECD countries surpassed that of OECD countries (46.8 Mb/d vs 45.6 Mb/d).

GLOBAL CONSUMPTION

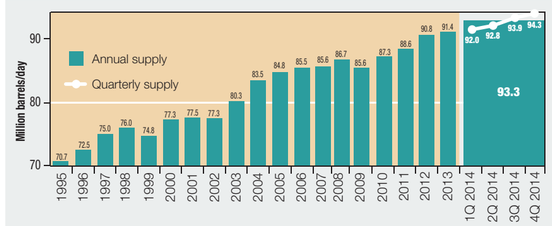


CHANGE IN GLOBAL CONSUMPTION AND BY AREA



Source: Eni's elaboration on IEA data; change vs the same period of the previous year

GLOBAL SUPPLY



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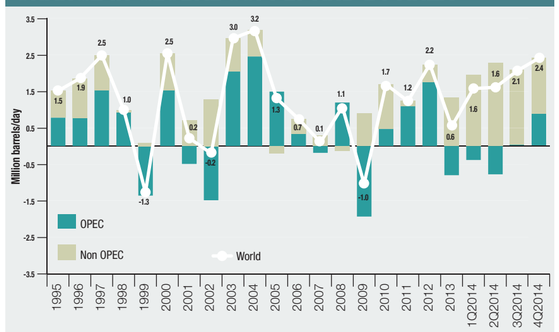

Source: Eni's elaboration on IEA data; change vs the same period of the previous year

Oil supply

In the fourth quarter of 2014, global oil supply exceeded 94 Mb/d with increases which, during the year, became increasingly significant (+2.4 Mb/d compared with the fourth quarter of 2014). The greatest drive always comes from non-OPEC countries which reveal the highest change in annual average ever recorded (+1.9 Mb/d). At year-end, OPEC also began to grow, helping to fuel the surplus on the market. Once again, the United States have shown the most significant increases (+1.5 Mb/d compared with the fourth quarter of 2014) with production steadily above 12 Mb/d, thanks to the continued development of tight oil which now represents more than 40 percent of the country's crude oil production. Among the other producers, Brazil continues to grow, showing one of the sharpest increases in the last year (+0.3 Mb/d), due to the positive results of recent pre-salt plays and of the Campos Basin, in recovery in the second half of the year. Canada closed with an increase of just 0.1 Mb/d due to maintenance that affected many projects.
As of September, OPEC countries started showing positive changes, mainly due to the continued growth of Iraq; the advance of ISIS did not affect the giant's production to the south of the country and, in December, crude oil reached a historical peak of 3.7 Mb/d. Production in Libya is characterized by a continuous "stop and go:" after exceeding 0.8 Mb/d in October, it fell at year-end to 0.4 Mb/d due to ongoing clashes between rival groups which postpone stable recovery.
Production in West Africa recovered, following the launch of the West Hub project in the deep water of Angola. The OPEC meeting at the end of November ended with the decision to leave the production target of 30 Mb/d (agreed at the end of 2011) unchanged for the next six months, although the overall production of the cartel in the second half of the year was stably above this level (30.5 Mb/d).
Overall, in 2014, global oil production increased by 1.9 Mb/d (vs 2013), against a very low growth in demand, generating a continuous input to stocks with four consecutive quarters of surplus, for the first time since the 2008-2009 crisis.

Oil

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