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BBVA EAGLEs Emerging and Growth-Leading economies

Economic Watch

EAGLEs

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Economic Analysis

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EAGLEs increasing demand turns energy security into a South-South issue

- **Rapid economic growth fuels energy consumption in emerging economies**

  EAGLEs and Nest countries currently represent a 35% of oil and gas demand and a 70% of world coal consumption. As the new gravity center of global economy, Asia is leading the process. Despite the expected lower intensity of energy use and technological progress, energy demand will keep growing fast, outpacing those changes. Non-OECD countries will explain around 80-90% of the incremental consumption in the following ten years fueled by annual GDP growth of 6% in the EAGLEs and Nest countries. A progressive change in the energy mix is also foreseen, with an increasing share of gas and renewables to the detriment of oil and coal, although these two fossil fuels will likely keep their dominant position by the end of the next decade.

- **Energy supply is still concentrated in the emerging world**

  Discoveries of new energy deposits have been remarkable on a country basis (e.g. gas in Peru or offshore oil in Brazil), but they have not substantially altered market power in world energy markets. Contrary to advanced economies, the EAGLEs and Nest countries are self-sufficient in aggregate terms although heterogeneity is high among them. China and India, the largest economies, are increasingly reliant on external sources, whereas oil and gas production is concentrated in the Middle East and, to a lesser extent, Russia. Institutional factors matter as shown by declining oil production in Argentina and Mexico during the last decade.

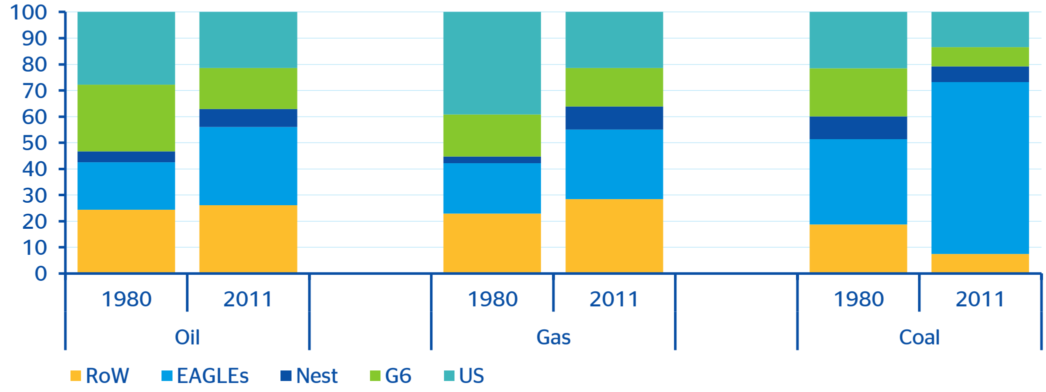
- **Demand and supply dominance shapes a strategic relation between China and the Middle East**

  Concerns on energy security were day-to-day life for developed economies since the seventies. At present, dominant forces in energy markets are both located in the emerging world. In particular, China (and, by extension, Asia), as the world economic powerhouse, consumes an increasing vast amount of energy resources for its development. On the other side, the Middle East concentrates the largest oil and gas reserves. These two elements come together in the definition of strategic relations between the two areas and exemplify how energy security will become a key issue of the South-South agenda.

Energy demanding growth in the emerging world

The G7 economies concentrated in 1980 more than a 50% of world oil and gas consumption, as well as a 40% of coal demand, while the EAGLEs and Nest countries accounted together for a 20% and 40% respectively (Chart 1)[1]. Thirty years later, the share of these emerging economies has increased by 15pp in both the oil and gas markets and by 30pp in the case of coal. On the contrary, the G7 countries have lost close to 20pp share.

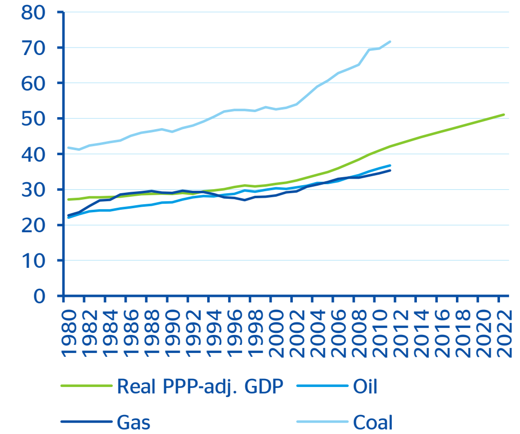
Chart 1
Oil, gas and coal consumption by country groups (% world share in 1980 and 2011)



Source: BBVA Research and BP

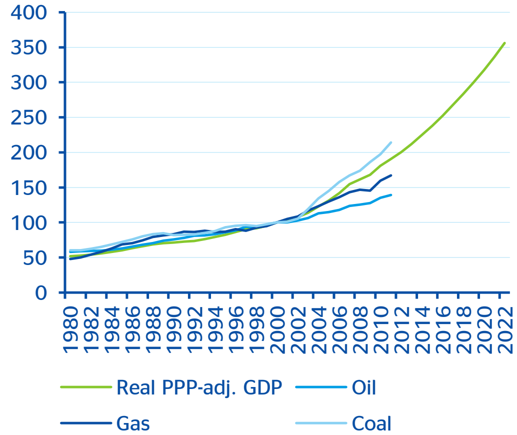
The increasing share of EAGLEs and Nest countries in energy world demand is a result of rapid economic growth, which has been outstanding since the beginning of this century (Charts 2 and 3). The incremental demand of oil, gas and coal has been mainly driven by industry and power generation, not only due to high growth but also as a result of a higher elasticity than in developed markets. The latter is explained by a wide range of factors: industrialization is relatively high (especially in Asia), energy-intensive manufacturing represents a significant share of industrial activity[2] and the growth model in China has been biased so far to investment (including infrastructures).

Chart 2
EAGLEs and Nest world share of GDP and energy consumption (%)



Source: BBVA Research, IMF and BP

Chart 3
EAGLEs and Nest GDP and energy consumption (index 100 = 2000)



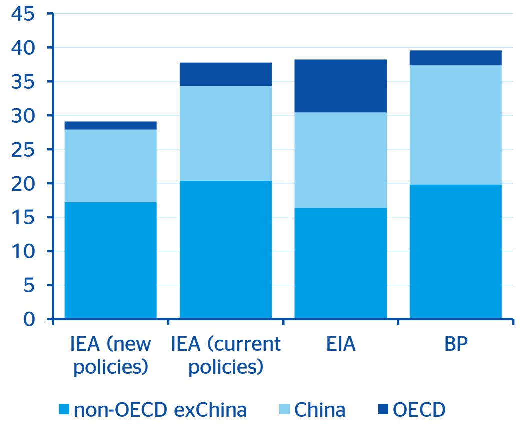
Source: BBVA Research, IMF and BP

1: We focus on oil, gas and coal as they currently represent close to 90% of total energy consumption, although when necessary we refer two other sources (i.e. hydropower, renewables and nuclear).
2: The so-called 'heavy industry' includes mining, metals casting, petroleum refining, industrial chemicals, cement, glass, pulp and paper.

The role of transport as a demand driver has been much more limited in aggregate terms, but quite relevant if we focus on the oil market, in which it currently represents a half of total consumption. The oil price averaged 20 USD during the 90s, whereas it has progressively climbed to 100 USD at present. Throughout the same period, we estimate that the share of middle classes increased from 20% to 40% in emerging countries[3] and the global car fleet grew by more than 200 million units, of which the bulk was registered in the emerging world[4].

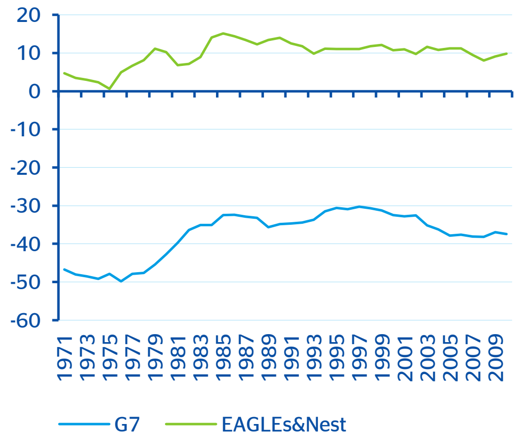
According to our projections, we expect GDP to increase in the EAGLEs and Nest countries by 80% in the following ten years, a similar rate as during the 00s (an annual 6%). Pressure on energy demand will therefore persist in the medium and long term. Lower intensity of use due to "tertiarization" and efficiency gains, as well as technological progress will reduce the elasticity to GDP and soften the impact, but, according to different sources[5], the effect will not be curbed and still be very significant (Chart 4). Energy consumption will keep growing fast and demand will be concentrated in non-OECD countries (80-90%), especially in emerging Asia. Relevant changes are also expected for the energy mix, as oil and coal will progressively lose market share in favor of natural gas and renewable energies, while more uncertainty surrounds the outlook for nuclear energy. However, fossil fuels will keep their predominance and all sources are expected to increase in absolute terms, keeping pressure on prices from the demand side.

Chart 4
Projections of world energy consumption (contribution to 2010-2030 % change)



Note: See references in Footnote 5 for details on scenarios
Source: BP, EIA and IEA

Chart 5
Energy trade balance for the G7 and the EAGLEs and Nest countries (% of energy use)



Note: Unweighted average by group
Source: BBVA Research and WB

Emerging countries keep supply dominance

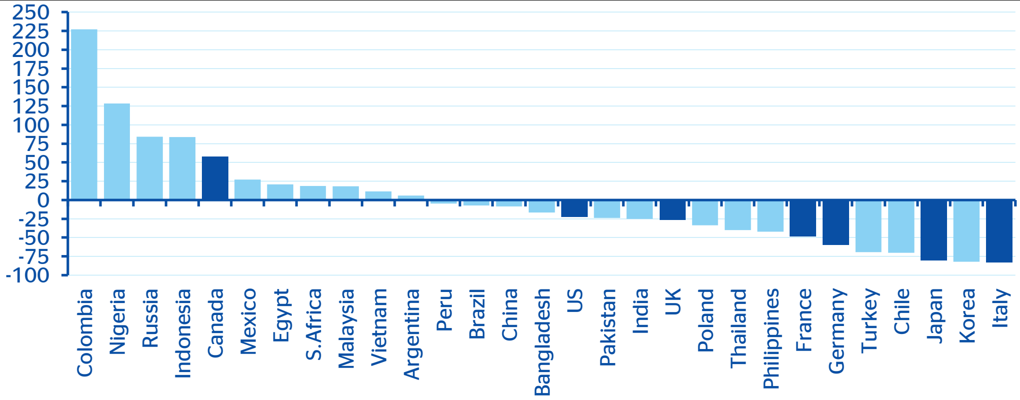
The realization of increasing energy demand implies that supply has also expanded substantially during the last decade. And, as it has happened with demand, incremental supply has been concentrated in emerging countries, keeping the previous status quo as dominant forces in energy markets and consolidating self-sufficiency as an aggregated group in contrast with external dependency in advanced economies (Chart 5).

However, the energy balance is quite heterogeneous among emerging economies depending mainly on their producer/exporter condition (Charts 6 and 7). The GCC countries, Venezuela, Colombia, Nigeria, Russia and Indonesia show the most comfortable position, with a large energy surplus compared to domestic demand. On the contrary, Korea, Chile and Turkey buy

3: "Emerging middle class in "fast-track" mode", EAGLEs Economic Watch, BBVA Research, January 2013: www.bbvaresearch.com/KETD/fbin/mult/EWMiddleClasses_v24jan13_tcm348-371705.pdf?ts=352013.
4: "Emerging markets key for the automobile sector", EAGLEs Economic Watch, BBVA Research, October 2012: www.bbvaresearch.com/KETD/fbin/mult/121010_EAGLEs_AutoProjections_EN_tcm348-359255.pdf?ts=352013.
5: BP Energy Outlook 2030 (http://bit.ly/ZQVvF8), IEA World Energy Outlook 2012 (www.worldenergyoutlook.org/) and EIA International Energy Outlook 2011 (www.eia.gov/forecasts/ieo/pdf/0484%282011%29.pdf).

abroad around a 75% of the primary energy they use. Poland, Thailand and the Philippines also present dependency ratios above 25%.

Chart 6
Energy trade balance in G7, EAGLEs, Nest and other emerging countries (% of energy use) (2010)

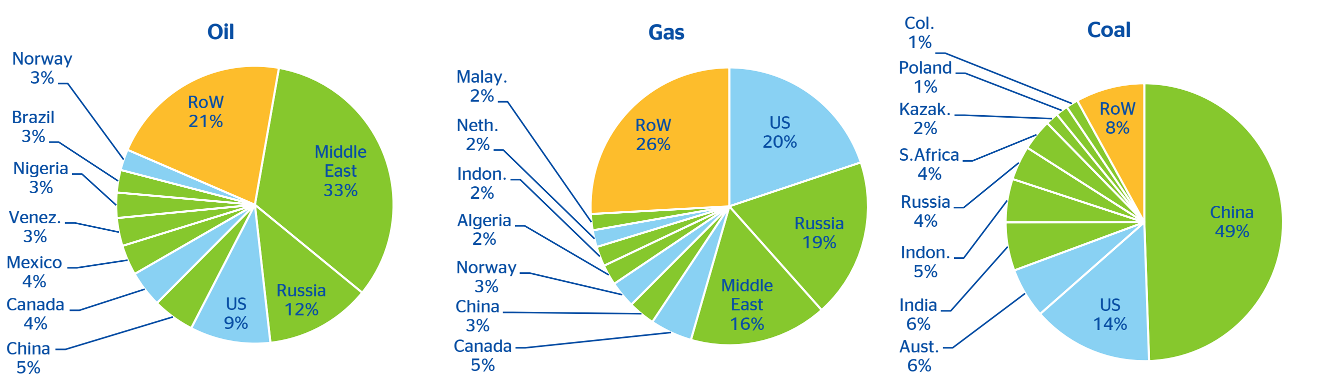


Source: WB

Some recent developments are worth highlighting on a regional basis:

- **China**'s balance turned negative at the beginning of the century although it's still manageable due to its coal surplus, while the balance has deteriorated significantly in **India** due to a more limited response of domestic supply. Among **Asian surplus countries**, Indonesia has reversed its downward trend due to increasing production of coal, whereas the net balance has substantially diminished for Vietnam and Malaysia as oil production has even fallen in recent years.
- In **Latin America,** opposite trends are observed for Argentina, with a decreasing surplus since the 2001 crisis, and Brazil, which has been progressively closing the deficit gap for the last 15 years on new oil deposits (most of them in offshore deep waters) and one of the world largest shares of hydroelectricity. Although not in the spotlight, a similar convergent pattern has been observed for Mexico, with lower oil production under reform paralysis, and Peru, with higher gas production from the Camisea region. Finally, Colombia has become more self-sufficient on higher oil and coal production.
- In Emerging Europe, **Russia** has kept its leading producer role in the oil (2nd), natural gas (2nd) and coal (6th) markets, while rapid growth has enlarged the energy deficit for **Turkey**, which has recently announced an agreement to build a second nuclear power plant. In **Africa,** no major changes have been recorded for surplus countries Nigeria (oil) and South Africa (coal). More uncertainty surrounds the situation in Egypt under the uneven political transition following the Arab Spring events.

Chart 7
Top 10 oil, gas and coal producers (% world share) (2011)



Source: BP

Energy security: critical to South-South agenda

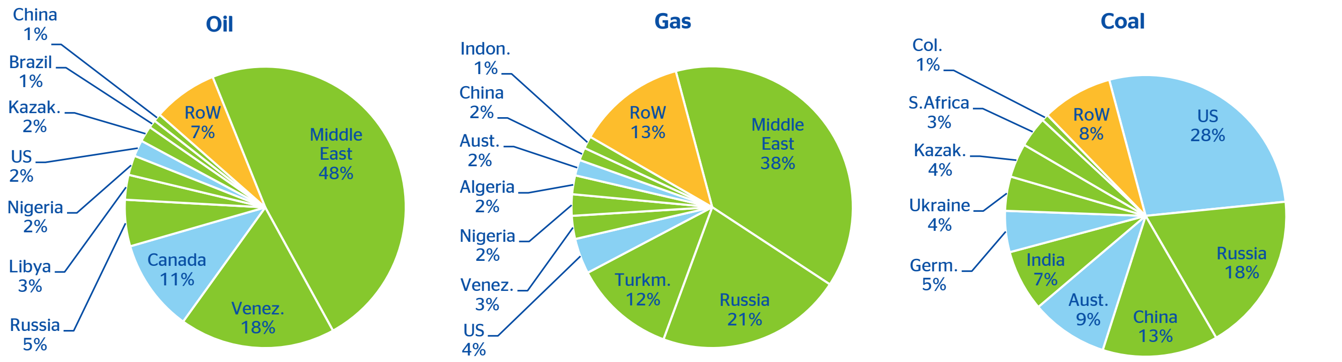
During the last third of the 20th century energy focus was on events affecting oil production in the Middle East and potential damaging effects for developed countries. In the 21st century, the rapid growth of emerging economies and their dominant role in energy demand have extended security concerns, in particular to Asia. In this region, most of the oil imports and a relevant share of gas imports come from the Middle East, while some key suppliers are also located in Africa in the case of China.

No major changes are expected for the future according to reserves estimations (Chart 8). On the contrary, if no new deposits are discovered elsewhere and no technological revolution is unveiled, the energy relation between China (Asia) and the Middle East will consolidate its strategic condition in following years for several reasons:

- Despite the declining elasticity to income, energy consumption will significantly increase as real GDP is expected to double in China during the following ten years.
- The energy mix will change in China to the benefit of those sources for which dependency on the Middle East is higher (oil and gas).
- Regional supply is limited at present, with a more relevant role in coal, for which China is not only self-sufficient but is also expected to reduce reliance.
- If the promising outlook for the shale gas is fulfilled, the US will reduce its reliance on the Middle East, reinforcing the dominant energy role of China in the region.

The example of China shows, in more general terms, the relevance of energy security for emerging economies, which have been traditionally relevant on the supply side, bringing a critical issue to the South-South political agenda.

Chart 8
Top 10 countries by oil, gas and coal reserves (% world share) (2011)



Source: BP

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