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# The New Energy Scenario and its Geopolitical Implications

Paul Isbell

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## Introduction

If the energy issue came to the forefront of world attention with the outbreak of the Iraq crisis in the autumn of 2002 –after more than a decade of absence from the international community's strategic concerns– over the past year it has emerged as *the global strategic issue par excellence*. It is not just that energy now exerts an enormous influence on the dynamism of the international economy, the stability of world geopolitics and the future of our environment on a planetary scale; it also appears that the energy issue will not recede into the strategic background again for several decades. The Gordian knot of the international system –in which nearly all our major strategic challenges are intertwined in some way or another– is energy, and it will continue to be well into the future.

This paper analyses the world's new energy scenario, the factors that have recently reshaped it, and the implications for Spain's strategic panorama.

### THE PRICE RESURGENCE: THE ENERGY ALARM SOUNDS AGAIN

The world's alarm bells first went off over the energy issue in the autumn of 1973, when the Arab countries of the Organisation of Petroleum Exporting Countries (OPEC) placed an embargo on oil exports to the US and the Netherlands as a result of the Yom Kippur War. This disruption to oil supplies revealed to the cartel its possible influence over the price of oil, inspiring the subsequent nationalisation of the energy sector in many of the cartel's member states, along with a much more aggressive pricing policy on behalf of OPEC. The price of oil rose from US$3 a barrel in 1973 (some US$10-12 in real terms, measured in current dollars) to more or less US$35 by the end of the decade.

The sensation of political urgency –and of business opportunities– triggered by the oil crisis of the 1970s stimulated a major effort to curtail the OPEC's power. The international private oil companies undertook a powerful investment campaign in exploration and production to develop oil resources in non-OPEC areas (including Alaska, the North Sea and the Gulf of Mexico). As a result of this effort, the international petroleum sector experienced a sort of technological and financial renaissance that continued to invigorate it until only very recently. In the geopolitical arena, the US exercised a foreign policy aimed at driving a political wedge between the key cartel countries. This led to US political and military support for Saudi Arabia and Kuwait *vis-à-vis* other major powers in the Persian Gulf (such as Iraq and Iran), US political and military support for Iraq against Iran during their 1980s war, US military intervention first in Libya and later in Iraq, and its political and economic support for Venezuela during the 1990s.

The clearest response to this early energy alarm bell, therefore, was not to develop a profound economic policy designed to transform the base of the world's energy economy through diversification of energy sources and a reduction in our dependence on oil (and its fossil fuel sisters, gas and coal), but rather a geopolitical policy of diversifying the geographical (and political) sources of those same hydrocarbons and of undermining the political feasibility and economic sway of the OPEC cartel. Following an initial tentative response from the OECD countries in the late 1970s and early 1980s to boost energy efficiency and promote the introduction of renewable energies (such as wind, solar, hydrogen and even nuclear power), public opinion –and the

preferences of the political elites– in the advanced economies once again became very complacent about the world economy's widespread dependence on the use and importation of hydrocarbons. This complacency only deepened further as oil prices began to plummet in 1986 (when OPEC unity was shattered and the new supply of oil from the Gulf of Mexico, Alaska and the North Sea started to invade the market), and with the accident at the Chernobyl nuclear power plant that same year.[1] Measured against any possible parameters, not much had changed in world energy policies and habits during the 30 years from the Yom Kippur War (1973) to the invasion of Iraq (2003).

But the alarm bells went off again in the summer of 2006. The price of oil –the main reference price for energy– reached an historic high in nominal terms (US$78 per barrel of Brent crude), an increase of nearly 300% since the beginning of 2002 and close to the historic record in real terms (just over US$80 per barrel in current dollars, recorded in 1979 and 1980). Although the price settled down considerably during the second half of the year, even dipping to a new low of just under US$50, the year ended with an annual average price of nearly US$65 per barrel of Brent crude.[2] Compared with the annual average for 2002, this represents an increase of approximately 150% in four years.

In any event, this price moderation since July 2006 has provided the world economy with a beneficial respite, allowing it to continue growing at an historically high rate (nearly 5% in 2006) and possibly postponing –though we do not know for how long– a substantial worldwide deceleration.[3] The most convincing explanation of why the world economy has withstood the recent rise in energy prices so well –the highest growth recorded for a consecutive period of four years since before the oil shocks of the 1970s, while oil prices have risen more than in any other period since those shocks– is relatively simple. Contrary to what occurred with the previous energy shocks (1973-74, 1979-80, 1990-91 and even 1999-2000), the rises in the price of oil in recent years are due more to increased demand, which in turn is generated by substantial economic growth, than to sudden and substantial cutbacks in the supply of oil to the market (though certain supply restrictions have played a secondary role). Indeed, without the rises in the price of oil, the world economy would have grown even faster in recent years.[4]

## THE ECONOMIC FACET OF ENERGY GEOPOLITICS

Energy plays a pivotal role in the economic field –particularly in world economic growth, which is such an important stabilising factor in international geopolitics–. Economic behaviours as basic as consumption and investment have a direct effect on both sides of the market (demand and supply) and therefore directly influence energy prices. But the most significant fact from a geopolitical perspective is that the relationship between energy and the world economy tends to be cyclical and increasingly unstable, exerting a potentially destabilising and unforeseeable influence on

[1] Interestingly enough, the Chernobyl nuclear accident dashed many of the hopes some might have had of making more use of nuclear energy to increase energy independence in Europe and the US. Furthermore, the slump in oil prices on international markets was the last straw that broke the economic and political back of the Soviet Union, which was already increasingly dependent on income from its oil and gas exports to carry on financing its growing external deficit with the West since the 1970s on account of its increasing grain imports.

[2] In the first months of 2007, the price of crude oil remained under US$55, giving very considerable impetus to the world economy. However, the prices of both Brent and WTI have recently returned to above US$60 per barrel.

[3] Actual world economic growth for 2006 was even higher than our estimate published in last year's *Strategic Panorama 2005/2006*. Given an average annual price of US$60 per barrel (one end of our 'scenario B'), we had estimated that world growth could be nearer to 4% in 2006 (significantly lower than the resulting rate of nearly 5%). Indeed, even the IMF had underestimated growth for the previous years (5.1% and 4.3% respectively for 2004 and 2005, when the world rates turned out to be 5.3% and 4.9%). See Paul Isbell and Rickard Sandell, 'Nuevos escenarios, nuevos desafíos: la transformación del horizonte estratégico', en *Panorama Estratégico 2005/2006*, Ministerio de Defensa, Instituto Español de Estudios Estratégicos and Real Instituto Elcano, March 2006, p. 41.

[4] The International Energy Agency estimates that the world economy would have grown a further 0.3% in annual average terms without the rises in the price of oil since 2002. In general, the IEA estimates, on the basis of several economic studies published in recent years, that a sustained increase of US$10 per barrel would reduce average real GDP by 0.3% in the OECD countries and by 0.5% in the rest –or 0.4% in the world–. The developing countries would be the worst affected, losing nearly 1% of GDP. See *World Energy Outlook 2006*, chapter 11, 'The Impact of Higher Energy Prices', IEA, Paris, November 2006, p. 269-314.

international relations.

For example, periods of strong economic growth (such as the 1960s, the second half of the 1980s and end of the 1990s) may be the result, at least partially, of a previous period of relatively low energy prices. Low oil and gas prices stimulate economic growth (as they pull down much of the economic cost structure, thereby stimulating production and limiting inflationary pressures). However, low energy prices tend to dampen the energy industry's incentive to invest in expanding supply, as investment in this context is perceived as a risk that is not compensated by the possibility of sufficiently high returns. Over time, this powerful economic growth tends to increase energy demand (as has occurred since 2002), while the low level of previous investments by the energy industry continues to restrict supply. The result is a rise in energy prices, as experienced since 2002.[5]

In turn these energy prices –sooner or later– begin to affect the two basic macroeconomic variables, inflation and growth (and, by extension, employment). If prices rise sufficiently as a result of the combination of strong demand (triggered by an economic boom) and shrinking supply (caused by insufficient previous investment), the economy may be struck by growing inflation and increasingly slow growth (the feared scenario known as 'stagflation').[6] This subsequent period of weaker economic growth tends to lower the demand for energy and with it the price of energy.[7] The new period of low energy prices will be reinforced by an increase in supply as a result of a new significant rise in investment levels triggered by the previous period of very high prices. But in the end this new period of low energy prices might act as a stimulus for a new phase of substantial economic growth (with a decreasing level of investment) and the cycle thus starts all over again.

This cyclical relationship between energy and the economy may be even more unstable if we consider the fact that the cycle can be reinforced –or, rather, destabilised– by political intervention (intentional) and geopolitical or even climatic events (unintentional), introducing influences that affect supply beyond those merely generated by investment in boosting capacity at each of the various links in the energy supply chain.[8] At one point in the cycle, characterised by low (but rising) prices, an incipient increase in energy demand and progressively stronger world growth, the producer countries (particularly the members of the OPEC cartel, but not necessarily only them) may decide to reduce their output –or simply not to increase it– thereby causing a price rise. This is what happened in 1974 and 1999 with the official cuts in the production levels of the OPEC countries.

[5] The current high level of economic growth, however, is due more to low interest rates from 2001 to 2005-06 than to very low energy prices. At any rate, the collapse in energy prices in 1998 helped lay the foundations for subsequent world expansion –which was interrupted only by the bursting of the stock market bubble and recession of 2001, but revived by the slump in interest rates for a long period afterwards–. In this connection many commentators have argued that the artificially low interest rates of the first half of the decade spurred high growth which eventually sent oil prices soaring. Indeed, instead of higher rates during these years, higher energy prices (and those of other commodities) were witnessed, a development which in theory will have an even worse impact on the economy ('stagflation') than that of higher interest rates.

[6] The rise in inflation would be much more notable than the economic slowdown if the monetary authorities were to respond with an accomodative policy with respect to inflation, in order to minimise the impact on unemployment (such as the widespread response in the OECD countries following the first oil shock in 1974). But if what the authorities aim for is to maintain price stability at all costs, through a strict policy of non-accommodation, the impact of the adjustment could be much more focused on economic activity, including the possibility of exacerbating an already serious recession (as was the case following the second oil shock in 1979-80).

[7] In the short term –the time frame of the economic cycle– energy demand is much more sensitive to changes in income than to changes in energy prices. That is, the price elasticity of energy demand is lower, in the short term, than the income elasticity of energy demand (according to the AIE: -0.03 compared with 0.09, respectively, in the short term, and -0.15 compared with 0.48 in the long term). The hypothesis, therefore, is that in the absence of substantial cuts in supply triggering very intense and sudden price hikes, the economic cycle has greater influence on price than vice-versa. But a fast price rise triggered by a cut or restriction in supply will lead to 'stagflation', whose impact on demand for oil will depend on the monetary response of the major consumers. See note 6.

[8] For example, in the oil chain: exploration, development, production, maintenance, transport, refining and distribution of the end products.

Whatever the case, this shock on the supply side may also be the result of another type of political event (planned or otherwise) such as, for example, the Iranian revolution at the end of 1978, which led to the withdrawal from the international market of much of Iran's oil production during 1979 (2mbd) and 1980 (4mbd). The invasion of Iraq in 2003 (and its subsequent occupation and civil war) has also been depriving the international market of nearly half a million barrels per day for several years, putting greater upward pressure on an oil price that was already rising as it was. Finally, a possible military attack on Iran could result in a significant reduction in the oil exports of several of the Persian Gulf countries (not necessarily only Iran), including Kuwait and Saudi Arabia.

However, the oil price rises (and those of other energy sources closely linked to oil, such as natural gas) witnessed in recent years have gone beyond the traditional cyclical movements to which we have become accustomed since the early 1970s. Owing to structural changes in the world economy, together with a resurgence in energy nationalism on the part of the producing countries and the public perception that we are reaching the geological limits of the supply of the main sources of hydrocarbons, the relationship between energy and the world economy appears to have pushed the cyclical range of possible prices up to a much higher level than previously. Whereas the price of oil tended to fluctuate cyclically between US$10 and US$40 per barrel from the early 1970s until the world recession in 2001, since then it appears to have crashed through the ceiling and set new cyclical limits of between US$40 and US$80 per barrel. Nevertheless, this new energy landscape is such that while a return to the long-sustained price of under US$40 per barrel appears unlikely, a renewed price increase –even a new shift in the cyclical range– beyond US$80 or US$100 per barrel is perfectly feasible.

## STRUCTURAL CHANGE AND THE NEW ENERGY GEOPOLITICS

What is the nature of these structural changes? Where has this upward shift in the price of oil come from? What might the geopolitical implications of such changes be for the energy landscape of the future?

### The Rise of China and India

On the demand side, the key change has been the recent incorporation of the major emerging economies -particularly China and India– into the integrating process of globalisation. With the progressive opening and liberalisation of their economies, these two countries (which account for one-third of the world's population) have joined the world economy and embarked on a path of sustained rapid growth and increasingly strong energy demand. Suddenly, in the short space of a few years, the world economy now has over two billion new consumers of modern energy -particularly oil and coal, but also gas–.

This rapid growth of China, India and large areas of the rest of the developing world has more than offset the increasingly modest pace of growth in OECD energy demand. Asia is currently the highest energy-consuming continent in the world, surpassing North America in the annual consumption of oil for the first time in 2005. Half of the growth in oil demand over the next 15 years will come from Asia. According to the IEA's projections, from now until 2030 around 70% of the new increase in world demand for primary energy (which will rise by over 50%) will come from the developing world, driven by dynamic giants such as China and India. Whereas the major advanced OECD economies are entering a phase of economic maturity, high (and increasingly saturated) levels of per capita energy consumption and low income elasticity of oil demand, the new emerging major economies such as China and India continue to grow with low (but rising) levels of

per capita energy consumption and high income elasticity of oil demand.[9] Between now and 2015, the growth in demand for primary energy in China will be double (4% annually) that of the world in general (2.1% annually), whereas in the developing world it will be 3.3% per year, compared with the annual growth of 0.7% in the EU's energy demand, 0.9% in that of Japan and 1.2% in that of the US and OECD. The weight of the OECD in world demand for primary energy will drop from 50% in 2004 to 40% in 2030, while that of the developing world will rise from 40% to 50% and that of China will grow from 15% to 20%.[10]

Asia's explosive economic growth and consequent increase in energy needs has been –and will continue to be– a shock to the world energy system.[11] The key to this outlook in strategic terms is China. On the one hand, China's rising energy demand will significantly influence all the major world energy dilemmas: (1) its growing demand for imported oil will continue to put upward pressure on the price of oil in the international market and will deepen the already existing sensation that there will be far more competition in the future to ensure access to oil resources, particularly in the Middle East, but also in Central Asia, Africa and Latin America; (2) its growing use of coal will lead Chinese carbon dioxide emissions to surpass those of the US within only a few years (by 2010, or even earlier, according to the IEA), practically guaranteeing that climate change will remain a burning issue; (3) its growing demand for natural gas will enhance the geopolitical power of Russia, its neighbour and the world leader in gas reserves and production, and also the major supplier to Europe, the natural supplier to China and potentially to Japan and Korea; and (4) its possible large-scale development of nuclear energy will complicate international non-proliferation policy and add a fresh element of uncertainty to the debate on nuclear waste and its possible sale on the black market. In addition, China's huge size and substantial weight in the international system also make it a factor of great uncertainty. Very slight changes in China's pace of growth or energy behaviours would imply significant differences for the world outlook in the medium and long term.[12] In short, within a very short time China will be as important an energy consumer and importer –if not more so– than the US or Europe in economic, geopolitical and environmental terms.

## The Resurgence of Energy Nationalism

A paradox of the apparent success of economic globalisation and the strategic victory of the market economy over the state-dominated economy –visible in the explosion of growth in a few key emerging countries like China– is the new and unexpected increase in the pressure of world demand on energy sources. The resulting price rise has, in turn, contributed to a new phenomenon that has had the effect of reinforcing these price increases owing to its negative impact on the perception of energy insecurity in the markets in the short term and, in the medium term, on the supply side: the resurgence of an energy nationalism that has been felt in nearly all areas of the world recently. The increasingly perceptible sensation that liberalising reforms have not worked sufficiently well since the end of the Cold War has combined with the spectacular rise in oil prices since 2002 to stimulate and direct the new tendency of state intervention in the energy sector to take advantage of the high prices and achieve social and geopolitical goals, which are seen to clash with integration into a liberal and global economy.

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[9] Whereas the G7 countries currently consume 18.6 barrels of oil per capita (Japan 16 and the US over 25), the developing countries of Asia consume only 1.7 barrels per capita, and China even less (1.6). This means that Asia's energy demand has sufficient room for further growth in the future. The two major emerging economies, China and India, display a 50% higher income elasticity of oil demand than the rest of the world. See the Asian Development Bank, 'The Challenge of Higher Oil Prices', in *The Asian Development Outlook 2005 Update*.

[10] See 'Annex A' and chapter 2, 'Global Energy Trends', of the *World Energy Outlook 2006*, International Energy Agency, Paris, 2006.

[11] For more extensive analyses on the energy challenge in Asia, see Pablo Bustelo, 'La Cumbre de Asia Oriental y la Seguridad Energética', ARI nr 10/2007, Real Instituto Elcano, 26/I/2007, and Paul Isbell, 'Dragones que escupen fuego: Asia y el reto de la seguridad energética', *Anuario Asia-Pacífico 2005-06*, Casa Asia-CIDOB-Real Instituto Elcano, Barcelona, 2006.

[12] According to the IEA, a difference of one percentage point in China's average economic growth between now and 2030 would be equivalent to 6% of world demand for primary energy and 4% of world demand for oil, *op. cit*., p. 69.

*Latin America*

In Latin America, where rejection of the Washington Consensus and anti-Americanism are increasingly palpable, the left-wing neo-populism of Hugo Chávez in Venezuela, Evo Morales in Bolivia and possibly Rafael Correa in Ecuador and Néstor Kirchner in Argentina, illustrate this trend well. Over the past year, both Venezuela and Bolivia have pursued the 're-nationalisation' of their energy sectors and have changed the legal framework (both in terms of taxes and royalties, and in terms of participation in and control of exploration, production and export projects); this has had a negative effect on the interests of the so-called international oil companies –IOCs– including Spain's Repsol YPF). In both countries only a few years ago taxes and royalties accounted for less than 20% of the IOCs' income from hydrocarbon production, but following the recent changes in hydrocarbon legislation over the past two years, this percentage has risen to over 80% in both countries.[13]

Furthermore, as a result of successive legislative changes, Venezuela's state-run PdVSA will now be entitled to renegotiate contracts in order to secure a majority interest in all hydrocarbon production and export activities (both conventional and non-conventional, both oil and gas), while in Bolivia the May 2006 decree on the re-nationalisation of the sector has led to the renegotiation of contracts with the foreign companies (chiefly Repsol and Petrobras) leading to a situation similar to that of Venezuela. Ecuador (under its previous President, Alfredo Palacios) followed Venezuela and Bolivia, almost as if in a chain reaction, in May 2006 by expropriating the assets of Occidental Petroleum (Oxy) in an oilfield producing over 100,000 bd in the Amazon region and raising the levels of taxation and royalties.[14] Although it is not yet certain whether the new President, Rafael Correa, will allow himself to be steered along the path of the new energy nationalism, his announced intention of returning Ecuador to the OPEC cartel and promoting collaboration between the state-run oil company PetroEcuador and other national oil companies (NOCs) in the region (including PdVSA and Petrobras) indicates that this is a real possibility.

*The Chávez Factor*

The clear leader of this movement is Hugo Chávez and his government in Venezuela, the country with the largest gas reserves in Latin America and potentially the biggest oil reserves in the world (if Venezuela eventually manages to exploit commercially the extra-heavy oil deposits of the Orinoco Oil Belt). Striving to secure a role for Venezuela as an international energy leader, Chávez serves as a reference point for left-wing neo-populist leaders (among them Morales, Correa, Humala and López Obrador) and even exerts considerable influence on the more moderate left-wing leaders (for example, Bachelet and Lula).[15]

Combining various aspects of the energy issue with his opposition to the FTAA and supposed US imperialism, Chávez's energy nationalism has developed several facets over the past years. First, he continues to subsidise the oil imports of small Central American and Caribbean countries (including Cuba). This policy is linked to his campaign to command support for the ALBA, his alternative to the FTAA for regional integration. Chávez's plan to build the 'great southern gas pipeline' together with Brazil and Argentina is also aimed at integrating the continent along the political backbone of a new energy infrastructure originating in Venezuela. Furthermore, his plans to link up PdVSA with other national companies to develop the country's extra-heavy oil resources, together with his diplomatic campaigns to cultivate ties with other producing countries (such as Russia and Iran), fit in very well with his long-term plans to divert Venezuelan oil exports towards China, to the

[13] See *Petroleum Economist*, November 2006, p. 33, and Paul Isbell, 'Hugo Chávez y el futuro del petróleo venezolano (I): el resurgimiento del nacionalismo energético', and 'Hugo Chávez y el futuro del petróleo venezolano (II): el pillaje de PdVSA y la amenaza a su nivel de producción', ARIs nr 15/2007 and 16/2007, Real Instituto Elcano, Madrid, 9/II/2007 and 12/II/2007.
[14] See *Petroleum Economist*, February 2007, p. 35.
[15] There are other cases that are less clear, such as Néstor Kirchner, Alan García and Daniel Ortega, leaders who appear to display a certain amount of independence and scepticism concerning Chávez.

detriment of the US.[16] The first group of policies aspires to consolidate the country's political leadership at the regional level, while the second group of initiatives is aimed at coordinating an axis of resistance to the US's international hegemony.

*Russia*

The former USSR, particularly Russia, is another area where disillusionment with the transition to a market economy and fatigue stemming from liberal reforms has combined with the new high energy price environment to produce a powerful cocktail of energy nationalism. A country that has proved incapable of fully completing the transition from a command economy to a market model has experienced a significant decline in its political and economic influence in the international system until the energy boom began only a few years ago. The sector that saw significant opening and privatisation during the 1990s –energy– has been the battlefield for the Russian state in its fresh attempt to dominate the sector that is perceived to hold the key to projecting the Kremlin's power in the world.

After designing a system for stimulating and channelling foreign investment that is fairly advantageous to private international oil and gas companies –the so-called production-sharing agreements (PSAs)– and allowing a fair number of private Russian companies to develop in the hydrocarbons sector, for several years now Vladimir Putin's Kremlin has been putting an end to the previous period of opening and liberalisation. The campaign to claim debts of supposedly unpaid taxes led to the imprisonment of Yukos' chairman Mikhail Khodorkovsky, state intervention in what was then Russia's largest private oil company and the subsequent integration of a large part of the company into the state-held Rosneft in 2004. Since then, the Russian government has attempted to return the sector's activities –and profits– to a small group of state companies (chiefly Rosneft and Gazprom), driving private international companies away from the most interesting projects (as occurred in 2006 with Shell and its Sakhalin-II LNG project, or with BP and its plans to export natural gas from the Siberian Kovytka gas fields to China or South Korea) and reserving these projects for the state monopoly Gazprom.[17]

*Russian Energy Policy and the Former Soviet Republics*

Russia has exerted its influence on the former Soviet republics to prevent these Central Asian producers from creating new export routes for their oil and gas that do not pass through Russia via the traditional networks. While it has been fairly successful in this endeavour, in 2006 hydrocarbons at last began to flow out of the Caspian zone via the BTC oil pipeline from Baku to Turkey and along Kazakh routes to China. In any event, although the Kremlin has lost a certain amount of influence as a transit country for the hydrocarbons of the Caspian and Central Asia, it has enjoyed greater success in its energy diplomacy with the transit countries through which pass Russian gas and oil destined for European consumers.

Indeed, although the energy alarm sounded again in 2006, particularly in Europe, this was due above all to the very brief cuts in the flow of the gas and oil that Russia habitually exports to Europe through the pipelines that cross the Ukraine and Belarus. Early in January 2006, after a conflictive renegotiation of the price of Russian gas for the Ukrainian market –which until then had been sold for under 20% of the market price– Gazprom reduced the gas flow, supposedly to briefly deprive the Ukraine of its supply until the latter agreed to Russian's plans to significantly increase the subsidised price. When the Ukraine responded by appropriating part of the flow intended for Europe, the gas that reached countries such as Hungary and the Czech Republic was more than 30% lower than usual. As a result, panic nearly gripped the EU (which depends on Russia for nearly 50% of all its gas imports and for approximately 25% of its entire consumption). A few weeks later,

[16] Venezuela supplies around 13% of the crude oil consumed in the US, according to the American IEA. See 'Venezuela Country Analysis Brief', *http://www.eia.doe.gov/emeu/cabs/Venezuela/Background.html*.

[17] See Paul Isbell, 'El "gran creciente" y el nuevo escenario energético en Eurasia', *Política Exterior*, nr 110, March/April 2006, p. 103-120.

the European Commission published the first draft of a Green Paper on energy, and entrusted Javier Solana, the EU high representative for foreign affairs, with a new paper on the foreign dimension of a possible European energy policy and its implications for energy security.[18]

Although throughout 2006 the representatives of the Kremlin and Gazprom denied that Russia intended to use gas as a weapon in its foreign policy with Europe, the perceived threat of Russia as an unreliable –and even hostile– source of much of the energy consumed in the EU sparked lively debates on European energy security and the possibility of devising a new unified energy policy capable of representing the EU with a single voice in relations with its energy suppliers. The Commission led a strategic review of the energy question during the second half of 2006, but just before it published its recommendations to the European Council in mid-January 2007 the flow of Russian oil supplied to Europe via Belarus through the Druzhba pipeline was cut off due to a clash over the subsidised price (similar to the incident with the Ukraine a year earlier).[19] Although the Kremlin's chief aim during these episodes may not have been to cut off gas and oil supplies to Europe, the message that has come across –for good or ill– is a warning of the energy and strategic risk that Russia poses to the EU (particularly to its northern and eastern members).[20]

*The 'Asian Card'*

Another aspect of Russia's energy policy which in 2006 continued to contribute to the perception that the Kremlin is using energy as a geopolitical weapon was the decision to commence the construction of its Siberian oil pipeline that is set to transport crude oil from Siberia to the East Asian markets. Early in the year President Putin had confirmed several times that the pipeline would convey 1.6mbd of oil to the Pacific coast to be transported by ship, mainly to Japan. But this apparent Japanese diplomatic success (and possibly American as well) was soon questioned when in March, during a bilateral summit between China and Russia, Mr Putin signed numerous energy collaboration agreements. Although this was not the first time Mr Putin and Gazprom had committed themselves to deeper energy integration with China, this time the commitments included projects to supply Siberian gas to China through two new planned gas pipelines and to convey approximately 600,000bd of oil to Siberia via a new additional spur of the Siberian oil pipeline –in practice, diverting one-third of the Japanese market's future supply–.

With this modification to the original plan for the Siberian oil pipeline, it appears that the Kremlin has decided: (1) that it would like to keep all its options open regarding its possible supply of oil to Japan or China; or (2) that it would prefer to supply energy to both markets simultaneously, by dividing Siberian oil between them, transporting the natural gas to China and reserving the possibility of leaving some of the Sakhalin liquefied gas for Japan. Indeed, Russia is pursuing a 'realistic' policy par excellence, treating all countries as possible allies and threatening supposed allies (some more subtly than others) with possible punishment, bringing the EU into potential conflict with former Soviet republics, Japan with China, and the West with the Far East.

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[18] See the European Commission (3/VIII/2006), *Green Paper: European Strategy for a sustainable, competitive and secure energy policy* [online] COM(2006)105final (available at *http://ec.europa.eu/energy/green-paper-energy/doc/2006_03_08_gp_document_en.pdf*), and Commission and the Secretary General/High Representative Javier Solana for the European Council (15/VI/2006), *An external Policy to serve Europe's Energy Interests* [on line] S160/06 (available at *http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressdata/EN/reports/90082.pdf*).

[19] For the conclusions of the EC's strategic review on energy policy and recommendations to the European Council of 8-9 March 2007, see European Commission (10/I/2007), *The Commission proposes and integrated energy and climate change package to cut emissions for the 21st century* (IP/07/29). For a more in-depth treatment of the crisis between Russia and Belarus, which analyses the differences and similarities to the case of Ukraine, see 'Belarus Highlights Russia's Export Vulnerability', *Global Oil Report*, CGES, vol. 18, nr 1, January-February 2007, p. 5-8, and Isabel Gorst, 'Price War Settled, For Now', *Petroleum Economist*, February 2007, p. 22.

[20] Furthermore, the Russians maintain –as well as claiming not to represent a threat to Europe in terms of security of supply– that they themselves feel insecure in their energy relationship with the EU: insecurity with respect to demand, on the one hand, and transit on the other. The insecurity that Russia might perceive with respect to the unforeseeable –or at least defiant– behaviour of the transit countries that are former republics appears to underlie its efforts to seek transport routes for its gas and oil that reach Europe directly (such as the new Baltic Sea gas pipeline negotiated primarily with the Germans) without crossing the Ukraine and Belarus.

*A Gas Cartel?*

But the facet of Russia's new energy nationalism that could one day exert a tangible impact on Spain, at least in the medium term, is undoubtedly the Kremlin's idea of exploring the possibility of creating an international natural gas cartel. Unlike many European countries, Spain does not import Russian gas; nonetheless, 33% of its consumption is supplied by Algeria and a further 15% by Qatar.[21] During 2006, the Kremlin held talks with these two countries and Iran on the possibility of establishing a 'gas OPEC'.[22] Between them these four countries possess over 60% of the world's proved reserves of conventional gas and currently produce 30% of the world total –similar figures to those of OPEC itself in the petroleum sector–.[23]

Although many analysts doubt that an international gas cartel would be feasible, we should not rule out this possibility, at least in the middle or long run. One of the criteria that any cartel should meet is a sufficiently high level of concentration in terms of market share. That is, there should be relatively few suppliers who possess a large share of the market between them. A good gauge of market concentration is the Herfindahl-Hershman (HH) index –the sum of the squares of the percentage of market share of each of the participants in a market– which ranges from 0 to 10,000. An HH score of over 1,000 (and particularly over 1,400) suggests an interesting potential for cartelisation. The HH score based on the market shares of the producer countries in terms of gas reserves is 1,230 (compared with just 980 for the oil-producing countries). Basing the HH index on export shares –a more appropriate indication of current market power– we obtain a score of 1,580 for gas exports via gas pipelines and 1,130 for exports of liquefied gas (LNG). Since the score for oil exporters is below 1,000, there seems to be a possibility that a gas cartel might be possible.[24]

However, one of the main obstacles that hinder the feasibility of such a cartel, at least in the short term, is the local and regional nature of the gas markets, dominated as they are by pipeline transport and bilateral long-term supply contracts.[25] Until the liquefied gas (LNG) market acquires the critical mass necessary to form a global spot and futures market, there are few possibilities that a cartel would function effectively in the sense of substantially influencing a global market and a single global gas price. Even so, now that Algeria has a certain capacity to export LNG,[26] together with Egypt and Qatar (and Iranian plans to expand the country's gas production, particularly the offshore gas fields of South Pars and the Gulf project, envisage liquefaction), the critical long-term influence over this possibility is held by Russia, the world's largest gas power. In this connection, one of the strategic decisions most relevant to the future development of the world gas market will be that of the Kremlin and Gazprom on the role of liquefaction in the Russian export system from now into the future.[27] If LNG, with a global spot and future markets, came to dominate the international gas

[21] See *Boletín Estadístico de Hidrocarburos CORES*, Ministerio de Industria, Turismo y Comercio, nr 109, December 2006, p. 8.

[22] Although practically all the public clarifications of nearly all the possible players in this game deny the feasibility of a cartel (and their intention to pursue it) –with the possible exception of Iran– these assertions are not entirely credible. Indeed, some of the strategic partnership agreements, such as that of Gazprom with Sonatrach, are logical first steps on the medium-term path to the formation of a cartel.

[23] See the *BP Statistical Review of Energy 2006*.

[24] See 'Another OPEC in the Making?', *Global Oil Report*, Centre for Global Energy Studies, vol. 18, nr 1, January-February 2007, p. 4.

[25] According to the *BP Statistical Review of Energy*, of all the gas that is exported –nearly 25% of the entire world consumption– over 70% is transported through gas pipelines and less than 30% by ship (gas tanker) in liquefied form.

[26] According to BP, *op cit*., of the 65 billion cubic metres of gas that Algeria exports (nearly 10% of the world total), approximately 40 billion are transported in liquefied gas form.

[27] This subject deserves further attention and research. In the short term, it appears that the Kremlin is not so interested in the idea of developing its capacity to export liquefied gas. While such a strategic shift would increase Russia's export flexibility and lessen its dependence on European consumption, transforming Russia's export apparatus into an infrastructure based on liquefaction and LNG carriers as opposed to gas pipelines would involve that loss of geostrategic control –if indeed such control is real and effectual– over the gas 'tap'. On the other hand, whereas everyone –both consumers such as Europe and exporters such as Russia– stands to gain in terms of flexibility and independence from the creation of a liquid, fungible and global gas market, these characteristics would be the very requisites that are necessary –but currently non-existent– for Russia to create and lead a new gas cartel with a certain influence over global prices. The fact is that Russia is interested in gas transported by pipelines in the short term but would be much more interested in liquefied gas in the long term. The dilemma is how and when to embark on a new strategy of investment in a new infrastructure, while maintaining state control of the sector (as it would be a lengthy, expensive and technically difficult project). Some analysts, such as Antonio Sánchez of the University of Valencia (and a member of the Elcano Royal Institute's working group

trade, an international cartel with these members could indeed influence the international price of gas in the same way that the OPEC influences the price of oil. For the time being, however, this is still a relatively remote future possibility (that could emerge between 2020 and 2030). Such a development in the gas market would have major implications for Spain, which is increasingly dependent on gas consumption but also on imported liquefied gas.[28]

## ENERGY NATIONALISM AND ITS IMPLICATIONS

The new rise in energy nationalism described earlier has also affected, though to a lesser degree, the Arab and Islamic countries of the Middle East and North Africa, the epicentre of the original outbreak of energy nationalism in the early 1970s. These countries have been unwilling –or unable– to relinquish state control over their energy sectors, mainly because they have had to address the rise of Islamic fundamentalism in their societies owing to the continual existence of poverty and uneven distribution of wealth. This circumstance has required a secure source of public funding for social programmes and investments in economic infrastructures in order to meet the demands of their populations and prevent them from being seduced by radical movements (such as al-Qaeda in Saudi Arabia and, now, in the Magreb).

To cite just one example, the financial position of the Saudi government –and its ability to undertake greater social expenditure in the medium term– has improved greatly since prices began to rise. In 2006 Saudi Arabia received over US$157 billion in oil revenues. Of this sum, nearly US$30 billion were used to repay public debt, bringing it down from nearly US$180 billion in 2002 to under US$100 billion by the end of 2006. As a result, public debt as a percentage of GDP dropped from nearly 100% in 2002 to below 30% in 2006 (28%, compared with a maximum of 118% in 1998). A tax surplus of US$70 billion was recorded in 2006, helping the country not only in its endeavour to reduce internal public debt but also to increase its volume of international assets (which reached US$216 billion in 2006, four times the figure for 2002).[29]

But this improved financial position has also been witnessed in many other producer countries apart from Saudi Arabia. As a result of the price hike, Russia has cancelled almost all its external debt; the Venezuelan state company PdVSA has earmarked the huge amount of US$24 billion to social expenditure since 2003 (nearly US$12 billion –or 21% of its entire income– in 2006 alone, more than double its own investments); and countries such as Angola and Nigeria have become independent from the Monetary Fund. In consequence, nearly all the non-OECD hydrocarbon producing countries now feel much stronger, more independent, bolder and more willing to defy the IOCs and consumer countries with more autonomous policies characterised by growing energy nationalism in all respects. Another example of this new autonomy is that Angola recently joined OPEC at the beginning of the year, while Ecuador, which had 'suspended' is participation in the cartel back in the early 1990s, is now contemplating reactivating its membership.

Even Saudi Arabia now appears more independent and autonomous. Although it has always been one of OPEC's most moderate members and has always proved willing, in the end, to cooperate with the US, its population is one of the most sensitive in the Middle East to the appeal of Wahabi fundamentalism in general and that of al-Qaeda in particular. At any rate, with the shift in the

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'La geopolítica de la energía: vista y analizada desde España'), believe that some of the specific points of the recent partnership agreement between the state-run Gazprom and Sonatrach may be a collaboration plan to help Russia develop its liquefied gas infrastructure in the long term. Russia could thus dispense with the IOCs with experience in LNG (such as the Spanish firms Repsol and Cepsa); all that would remain is the issue of financing this project.

[28] Spain is the European leader in terms of liquefied gas imports and import and regasification infrastructure. Approximately 65% of all its gas imports arrive in liquefied form. Spain is the third-largest importer of liquefied gas in the world, after Japan and South Korea, but it is still ahead of the US.

[29] See 'Saudi Arabia's Public Finances in 2006 and 2007', *Global Oil Report*, Centre for Global Energy Studies, vol. 18, nr 1, January-February 2007, p, 15-17. The estimate of oil income for 2006 given by James Gavin in *Petroleum Economist* ('Good Cop, Bad Cop', February 2007) is higher: US$187.5 billion (and US$164.7 billion in 2005).

cyclical range of prices to at least double those prevailing during the previous 20 years, Saudi Arabia has returned to the role of defending a price floor and boosting OPEC's market power. In autumn, by which time the price had dropped to nearly US$50 per barrel –threatening producers' newly achieved high income levels– the members of the cartel, headed by Saudi Arabia, agreed on new cuts in OPEC output of some 1.2mbd, with Saudi Arabia making the most substantial cutback (some 500,000bd) since then. However, of all the producer countries whose oil sector is nationalised and controlled by its NOC (at least outside the OECD), Saudi Arabia is the subtlest player (and its NOC, Saudi ARAMCO, the most sophisticated). It does not use energy (at least not openly) as a political weapon; rather, it concentrates its efforts on the effective management of the cartel as an economic tool for the various Arab Gulf societies and on using its role as swing producer as a disciplinary stick to maintain cohesion and effectiveness of the cartel.

## The External Facet of Energy Nationalism: Energy as a Geopolitical Weapon[30]

But can a producer country really exercise energy nationalism as a geopolitical strategy in a credible and effective manner? Although conventional wisdom would say it can, one might argue that the external facet of energy nationalism (for example, Russia's use of its sway as a supplier to influence European policy, or Venezuela's threat to redirect to China the exports traditionally intended for the US) should not be of such concern to the consumer countries, as state control over energy export flows in the producer countries has no substantial force beyond the sensationalist and superficial rhetoric of the media.[31] With well-designed and executed emergency plans, sufficient oil and gas stockpiles, and effective energy policies directed at both demand (efficiency) and supply (renewable energies, nuclear energy and/or other new technologies), it can be argued that even a supplier as important as Russia loses much of its perceived influence, as in the medium term relations between Russia and Europe are based on mutual dependence (or interdependence). Even the possible short-term asymmetry in Russia's favour will disappear if Europe feels capable of withstanding with normality and calm a hypothetical absence of Russian gas from its market for several months.[32] After all, the level of risk implicit in any type of vulnerability or external dependence is inversely proportional to the quality of political leadership, level of citizens' awareness and proactive preparation of society. In short, energy security depends as much, if not more, on the actual management of the internal energy system than on the policies of the country of origin of much of the primary energy supply.

Nor is it at all clear whether an oil producer –like Venezuela– can specifically choose to penalise a particular consumer country politically by cutting off its supply. If the exporter diverts the flow of

[30] A further expression of energy nationalism that cannot be dealt with here is the energy nationalism of the new major consumer countries, particularly in Asia (ie, China and India). For an analysis of this phenomenon, see Paul Isbell, 'Dragones que escupen fuego: Asia y el reto de la seguridad energética', *op. cit.*

[31] In addition to the arguments set out here, which play down the importance of the vulnerability of the consumer countries, taking a sceptical view of the true power of the energy weapon in foreign policy, Aurelia Mañé maintains that the dichotomous concept of two actors (consumer country versus producer country) with a relationship of obvious dependence (such as, for example, a vulnerable and insecure Spain versus a powerful Algeria, which supplies Spain with more than one-third of its gas consumption) does not convey the complex reality that includes –in addition to the consumer and the producer– the web of energy companies, both in the consumer country and in the producer country (which are increasingly more integrated) and possibly transit countries (which may be consumer countries themselves, as in the case of Turkey, or possibly in the future, Spain). This complex reality usually causes a situation of interdependence and mutual integration which qualifies or reduces the vulnerability and risk posed by dependence on imports, according to Mañé, or at least this is the case of Spain with respect to its partner-suppliers of the Maghreb, particularly Algeria. See Aurelia Mañé Estrada and Alejandro V. Lorca Corrons, 'África del Norte: su importancia geopolítica en el ámbito energético', a paper of the Elcano Royal Institute's working group 'La geopolítica de la energía: vista y analizada desde España', published in March 2007.

[32] Many analysts argue that Russia cannot afford to consider cutting the supply of gas to blackmail its clients, as it depends as heavily on its gas sales to Europe as the latter does on Russia for its gas supplies. Nonetheless, others point out that this mutual dependence is not symmetrical in the very short term –and consequently does not act as a deterrent– since Russia can endure going without some income in the short term (provided that it is more or less assured in the medium term) whereas the European consumer countries will be plunged into social chaos and total political crisis owing to their significant vulnerability and apparent lack of preparation for a possible supply crisis. The solution for eliminating this asymmetry in the short term and the political power Russia is perceived to wield would be to devise and share credible plans for business reaction and citizens' response in the event of an energy supply crisis, and the construction of a greater natural gas storage capacity.

oil to other markets, the global nature of the market (for a fungible product like oil) will merely lead to a readjustment in the flows to ensure that the 'penalised' country (for example, the US in the case of Venezuela) receives its oil from elsewhere in the global marketplace. In the 'best case' scenario (from the point of view of an aggressive producer country), if the market does not succeed in making the necessary adjustments quickly, the result could be a temporary rise in the price that the target country in question would have to pay.[33] On the other hand, if the producer's oil is not diverted to other markets, the result of a disruption in the flow of exports to a particular country will merely succeed in pushing up the global price of oil, thereby 'penalising' all consumers.[34]

**The Domestic Facet: State Control of the Energy Sector and the Threat to the Level of Investment**

While the influence of the external expression of energy nationalism (the use of supply as a foreign-policy weapon) on international politics depends primarily on consumer countries' perceptions (accurate or otherwise) of vulnerability (and on their own passivity), the domestic facet of the same energy nationalism can have important and tangible implications for the energy security of consumer countries –and possibly for the producer countries as well–. Indeed, the true threat that energy nationalism poses to energy security is not the use –of dubious efficacy– of energy as a foreign policy weapon, but rather the likelihood that the growing presence of the state in the producer countries' energy sector would have a negative impact on future investment levels. The strategic risk –for all parties– of the increasing wave of energy nationalism will be its impact on the supply of oil and gas in the future and, by extension, its upward influence on prices.

As mentioned previously, the recent revival of nationalist policies in the upstream of the hydrocarbons industry in many producer countries has been conceived as a tool for maintaining national and state control over production levels and income from the energy sector (in almost all the producer countries) and for boosting the weight of the nation in geopolitics (in some cases in particular, such as Russia, Venezuela and Iran). The effect of this new phase of state intrusion into the upstream –added to that of the first period of energy nationalism during the 1970s– has been to drive the major private international companies (the IOCs) even further away from the areas that are rich in hydrocarbons, particularly non-conventional oil and gas, where the experience and knowledge of the IOCs might prove pivotal to their exploitation (such as the case of Venezuela's extra-heavy oilfields). The IOCs now control less than 15% of the world's proved conventional hydrocarbon reserves, whereas the NOCs control (at least partially) over 85%.

This situation stems from a paradox that poses a strategic risk to all the consumer countries. On the one hand, the IOCs –which now possess more money than ever and much of the existing technical and technological know-how– only have access to non-conventional petroleum, which is increasingly difficult and expensive to find, develop, exploit and maintain. On the other, the NOCs –which have access to what remains of easy and cheap petroleum, and also greater financial sway than ever– tend to be held hostage to the foreign and social policy of their owners, the states of the producer countries which are earmarking increasingly large slices of their energy revenues to expenses of dubious long-term social impact and are managing their expenditures and investments in general according to increasingly less 'economic' and more 'political' criteria.[35] What is more,

[33] For a more in-depth treatment of this matter, see Paul Isbell, 'Hugo Chávez y el futuro del petróleo venezolano (II): el pillaje de PdVSA y la amenaza a su nivel de producción', *op. cit.*

[34] Nor would this increase in the overall price that 'penalises everyone' be possible if there were one or more producers with sufficient idle capacity to replace, in a credible manner, the oil of which the market is deprived. In 1991, when Saddam Hussein's troops began to burn the country's own oil wells during the first Gulf War, Saudia Arabia alone had more than double the amount needed to cover the lost Iraqi oil on the market; however, as things stand today, if for some reason Iran were to cut back significantly its exports to the world, the Saudis would not have sufficient idle capacity (at most, 2.5mbd) to cover it credibly on the market, and the global market prices would rise significantly.

[35] In recent years the major IOCs (the majors and supermajors) have recorded their largest net profits in history –between US$25 billion and US$35 billion per year, in the case of the biggest companies. The NOCs, for their part, have also brought their states record levels of energy income, with Venezuela verging on US$50 billion a year and Saudi Arabia some US$160 billion.

whereas the NOCs tend to hail from countries with questionable democratic credentials, it is also usual –as in the case of Venezuela and Russia– for future energy power –in either market or geopolitical terms– to depend on investments in aspects of the sector in which NOCs lack the experience or technical expertise of the IOCs (such as Venezuela's extra-heavy oil or the liquefied gas and oil of the Arctic and ultra deep waters, in the case of Russia).[36] Lastly, the NOCs also control many mature deposits that are now in decline or almost past their peaks. At any rate, it is essential to make major investments in these deposits in order to step up the recovery rate and at least maintain net output.

The implication of this many-sided paradox is that a clash of interests can easily arise between the technical and business need to continue investing increasingly large amounts of income in order to maintain –if not increase–output in the future (a clear priority from the perspective of the consumer countries) and the political priorities of the state budget of the producer countries. But with high prices and energy incomes at record levels, with the state increasingly regaining control over the energy sector, and the erosion of democratic checks and balances which restrict the use (or abuse) of state and executive powers in many producer countries, the major risk in the short and medium term is that insufficient investment is being made in the three major focal points of energy nationalism today –the Andean region, the Middle East and Russia– to carry on boosting the supply of hydrocarbons to meet projected demand.[37] Without significant changes in current demand, supply and technology trends, the IEA reckons that primary energy demand will increase by 50% between now and 2030 (for oil the increase would be almost 45%), and the investments required in the world sector to ensure the relevant supply will amount to over US$20 trillion (in annual terms more or less equivalent to the current GDP of an emerging economy such as that of Brazil).[38]

This gigantic increase in the energy (and oil) supply levels, together with the huge investment in the energy sector that is required to achieve it, has no historical precedents. It would be a major economic, business, technological and legal challenge in the best future imaginable. However, viewed through the prism of the current context of growing energy nationalism fuelled (and even driven insane) by widespread discontentment with globalisation and international economic integration, on the one hand, and high energy prices –and the substantial income they represent– on the other, it would seem almost far-fetched to think that the world would be capable of producing over 115mbd in 2030. When this dubious eventuality is analysed in conjunction with the new explosion in demand from China, India and the rest of the developing world (where another third of the world's population has not even entered the circuits of modernity to begin to consume more than symbolic amounts of electricity and oil), the backdrop to the significant upward shift in the cyclical range of hydrocarbon prices in the past years can be quickly and clearly understood.

**The 'Resource Curse': A Curse for Whom?**

But whereas energy nationalism –and, more specifically, the threat it entails to world production levels– represents a strategic risk for consumer countries, an interesting question is whether this same nationalism goes against the economic interests of the producer countries. The IEA maintains, for example, that the falling production levels that might result from a shortage of investment caused by excessive state intrusion in the energy sector would lead to a decrease in oil income to individual producer countries despite their upward effect on prices.

[36] There are a few notable exceptions to this rule. For example, the Saudi ARAMCO is one of the most sophisticated oil companies in the world in terms of experience, know-how, technology and financial and investment strategy. Furthermore, NOCs such as Petrobras and Statoil of Norway have gained very valuable experience in oil and gas in deep or ultra-deep waters.
[37] For an analysis of this risk in the case of Venezuela, see Paul Isbell, 'Hugo Chávez y el futuro del petróleo venezolano (II): el pillaje de PdVSA y la amenaza a su nivel de producción', *op. cit.*
[38] See 'Summary and Conclusions', *World Energy Outlook 2006*, IEA, *op. cit.*

But this result depends on several empirical features that define each producer's environment, such as, for example, its size in the market. A sufficiently large exporter could trigger a price rise that is higher in percentage terms than the actual slump caused in its production level. It also greatly hinges on the economic health of the world and of demand, which can push prices up independently of the market share of the producer country reducing its output. If the price elasticity of demand continues to be very low, it is perfectly feasible for a producer country to reach the conclusion that it is in its interest to pursue a policy of punishing the IOCs by raising taxes and royalties, driving them away from reserves, and accepting the fall in production levels that these actions might trigger over time. Current examples of this type of producer country are Venezuela and Russia (if Mr Chávez and Mr Putin turn out to be more astute than most observers think). For the time being, these countries have higher revenues than ever and the only ones who are complaining are the consumers, the major IOCs and certain private local interests –such as the Khodorkovskys of this world– not run-of-the-mill Venezuelans and Russians.

However, others argue that in the long term the effects of energy nationalism, expressed in terms of higher prices, paradoxically end up impoverishing their populations, despite short-term economic upswings. A study headed by Paul Collier of Oxford University shows that following a 100% increase in oil prices, on average producer countries record a GDP growth of approximately 7%. But a further ten years on, the same countries' GDPs tend to be some 10% lower than the initial GDP level at the time of the price rise. What is the cause, according to Collier?: the absence of effective democratic institutions and mechanisms fully integrated into the political system capable of restricting and neutralising government abuse and the possible corruption of the leaders of the moment (ie, 'checks and balances'). Instead of being the key to economic and social development, oil and gas are typically the triggers of economic disaster and the root of the so-called 'resource curse' owing to a lack of good governance.[39] Nigeria has always been the classic example of this phenomenon (though the experience of recent years under Obassanjo's rule might foreshadow, if not guarantee, a change in this trend).

## RESPONSES TO THE STRATEGIC RISKS OF THE NEW ENERGY GEOPOLITICS

The energy alarm rang loudly during 2006. The bells began to sound in Europe and Spain as the price of oil peaked at nearly US$80 per barrel and Europeans were engulfed by a palpable feeling of insecurity following the disruptions in the supply of Russian gas and oil. In addition, Europe experienced a noticeable change in its perception of the risk of climate change from emissions of carbon dioxide as a result of the rapid international dissemination of Al Gore's film (*An Inconvenient Truth*, which was awarded several Oscars in 2007).[40] This triple threat (high prices, insecurity of supply and climate change) has spawned a notable effort during 2006 and 2007 on the part of the EU's institutions –above all the Commission, but also in the European Council– to design and establish compulsory priorities and goals for the EU member states and also to seek a political formula for shaping a genuinely common European energy policy.

The core aspects of the recommendations that were designed, debated, refined and finally implemented by the European Council on 8 and 9 March 2007 could be summed up as follows:

(1) Establishment of the fight against climate change and the transformation of Europe into a post-hydrocarbon society (what José Manuel Durão Barroso calls the 'post-industrial revolution') as fundamental political policies for the European Union –even more important than the Lisbon goals–.

[39] See Paul Collier, *The Bottom Billion: Why the Poorest Countries are Failing and What Can Be Done About It*, Oxford University Press, 2007.

[40] The 'greenhouse effect' and climate change caused by gas emissions produced by use of hydrocarbons is another strategic risk posed by the new energy landscape. For reasons of space, it is only possible to address this subject briefly in this chapter. For an analysis of the strategic risk posed by climate change, see Paul Isbell and Rickard Sandell, *op. cit.*

(2) To make this vision a reality, the Commission has recommended -and, very significantly, the European Council of March 2007 has adopted– several binding targets that the EU must meet by 2020.

(a) First, the binding objective of reducing greenhouse gas emissions by 20% (below equivalent 1990 levels) by 2020 (with an appeal to the world to join forces in order for the planet to achieve an overall drop of 30%. A target reduction of between 60% and 80% by 2050 is also planned).
(b) Secondly, in order to achieve this, another binding target has been adopted to boost the use of renewable energies to a minimum of 20% of the European energy mix by 2020 (compared with the current level of under 10%) with the additional goal of increasing the weight of biofuels in the fuel mix by at least 10% by the same date (compared with the current level of under 5%).
(c) Finally, in order to achieve a single and competitive internal energy market, instead of forcibly separating the transport, transmission and distribution activities of electricity generation companies (as recommended by the European Commission), the Council has opted for the establishment of new regulatory agencies to manage the assets of generation companies in the electricity and gas transmission and distribution network.

It has not been easy for the EU to reach these agreements. Above and beyond the fact that there are no clear legal foundations for a common energy policy in the treaties on European unity, the energy field is riddled with national interests that are perceived as different –or even clashing and causing major rivalry between 'national champions' in the gas and electricity sectors–. Decisions on the optimal energy mix have likewise always been left to national governments, sparking a certain tension between advocates and opponents of nuclear and renewable energies. Since the Ukrainian crisis, the European energy debate has been characterised by these disagreements, which continue to hinder efforts to reach common positions in the energy field. Although the Council decisions of 8 and 9 March 2007 are historic –and represent the first and minimum requisite for keeping alive Barroso's dream of inaugurating the post-hydrocarbon society and stimulating a post-industrial revolution– there is still much work to be done. In particular, this year the Commission will have to negotiate and design individual national agreements that jointly express the finally accepted solution for sharing both the burden of the national adjustments in terms of emissions and the specific goal for each member state in terms of the weight of renewable sources in the national energy mix.

In this connection, the European Council has accepted the principle of flexibility for specific nations with respect to meeting the compulsory target for renewable energies. Although this concession made the March agreement possible, without resolving the underlying political problem, it also leaves the door open for nuclear energy (now defined by the Council as a 'low-emission energy source') to be finally accepted as a valid and recognised energy source in the fight against climate change and energy insecurity stemming from hydrocarbon dependence. Although the nuclear debate cannot be dealt with in depth in this text, this nuance of the March Council agreements may be relevant to the future of Europe's energy policy, as there are serious doubts about the ability to meet the emissions target without at least renovating Europe's existing nuclear plants, which generate 30% of its electricity.

Even Michael Glos, the German Economy Minister –the central country in this debate, which continues to reject the idea of renewing its nuclear plants (not to mention expanding them)– admits that under no circumstances can the European emission reduction targets be met without nuclear energy, given Europe's inability to deploy other renewables sufficiently quickly. Unless existing nuclear energy is renewed in Germany (where it provides over 25% of the power supply), the growing use of renewables will have to be supplemented by greater coal use. This scenario, according to the Germany Finance Minister, will result in an *increase* of up to 8% in German

emissions in 2020.[41] The related outlook for Spain, where nuclear energy currently accounts for 20% of the power supply, cannot be very different.

**CONCLUSION**

The energy alarm sounded again in 2006. Energy prices have permanently shifted to a much higher level than was usual in the past. If there is further price movement in the future, it is much more likely to be upward than downward. The perception that energy is now the central geopolitical battlefield has also grown considerably in Europe as a result of the disruptions to the supply of Russian energy, regardless of their duration or true causes. Public awareness of the role of our dependence on hydrocarbons in climate change has heightened even more the sensation of urgency that is felt in Europe to shape a European energy policy capable of overcoming this three-pronged economic, geopolitical and environmental challenge –a challenge that is being exacerbated and made more difficult by the new rise in Asian demand, on the one hand, and the US's persistent preference for a policy that is not far from *laissez faire* (take this to mean: *business as usual*), on the other–.

Europe advocates market principles and efficient economic competition as opposed to the traditional criteria of realism and geopolitical competition which are increasingly defining today's energy field, to the detriment of global economic integration. This attitude is not without its risks, as each of the various energy policies possible only makes sense in the context of the international environment that emerges to dominate the future outlook. It will not be easy to make clinging to market principles work in the international energy sector if other significant players in the game – the major producer countries (for example Russia), the major consumer countries (China) and even the major member states with their major national champions– continue to play by the rules of national competition.

Even if energy nationalism proves incapable of truly achieving its aims –compared with the overall superiority of a well-designed and regulated market scenario– it will end up defining our world energy reality if there are enough players who espouse this idea, as there appear to be currently, posing risks to those who continue along the market path. If Europe attempts this anyway, one of its major challenges will be to carry on preserving its unity in the face of likely pressures and difficulties, seeking feasible formulas to share the burden of the inevitable adjustments.

But these dilemmas are always more acute in the case of a single small country, a typically run-of-the-mill player unable to shape the characteristics of the global energy landscape as it evolves. For a major player with the potential to change the direction and profile of the international scene, acting as world leader, there is a credible possibility of success. However, in the energy issue it seems that the major actor who takes on the role of world leader is not going to be the US –it would have to be Europe–.

Indeed, in the final analysis, if all remains the same, the fragmentation of the world economy that would result from national competition in the energy sector would threaten not only the future of the EU's single market but also the possibility of progressing further with world economic integration and, as witnessed at the end of the last stage of late 19th-century and early 20th-century globalisation, it is very likely that sooner or later this trend will lead to war. What choice, then, for Europe? What alternative, then, for Spain?

*Paul Isbell*
*Senior Analyst, International Economy and Trade, Elcano Royal Institute*

[41] See Derek Brower, 'Bold and Green', *Petroleum Economist*, February 2007, p.8.