



THE NEW GEOGRAPHY OF ENERGY AND THE PURSUIT OF GLOBAL ENERGY SECURITY

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The pursuit of energy security is inextricably linked with the geography of energy and international relations. It is easy to appreciate why: the global centres of energy consumption are usually not the same as those of energy production. Consumers and producers in nearly every region must reach beyond their borders to find each other and enter into mutually beneficial agreements to satisfy their energy needs. This renders energy security a matter of international policy, where the energy strategies of different countries intersect, and where the acknowledgment of interdependence is key to develop the type of long-term, international partnerships that promote energy security for all.

Given this link between geography and energy security, it is to be expected that, when the geography of energy changes, national and international energy strategies change as well. A new configuration of energy supply and demand brings with it new opportunities to trade and invest, reflected in a new structure of energy prices, a new direction of energy flows, and an overall adjustment to the energy mix in many countries. With such a shift in market fundamentals, a framework of international rules and infrastructure, in effect, of intergovernmental co-operation, must be in place to make sure that energy reaches consumers while finance supports producers undertaking investments.

Over the last decades a new geography of energy has been transforming the pattern of energy supply and demand, with consequences for the future of energy security and international co-operation that are still unfolding. The two main developments are the rise of Asia as the dynamic centre of energy consumption and the impressive increase in oil and gas output from North America. The first is driven by population increase and, more fundamentally, by the rise of Asian economies, which have required more energy to support their economic growth. The second derives from technological breakthroughs that opened up new geological formations for the production of unconventional oil and gas at a reasonable cost.

The joint increase in Asian consumption and North American production has already widened the intercontinental divide among North American, European and Asian oil and gas prices. Today Asian consumers pay around four times more for gas than their North American counterparts, while the difference between the WTI and Brent benchmarks has not only inverted – with WTI below Brent – but subsequently remained virtually constant. Absent new investments in infrastructure for international trade, the arbitrage opportunities implicit in these price differentials, which would provide the impetus for sending more shipments of oil and liquefied natural gas to Asia and Europe, will remain untapped.

The decreasing reliance of North America on oil and gas from the Middle East is intensifying energy links between the Middle East and Asia and, to a lesser extent, Europe. The largest and sustained source of demand for the Middle East will most likely be concentrated

in East Asia and perhaps in the Middle East itself, as per capita energy consumption is rising fast.

With the shift in relative energy prices a new energy matrix is also being redrawn. In North America, a significant rise in the use of gas for power generation is already noticeable and is spreading to the industrial and transportation sectors. In Europe, despite policy efforts to promote greater use of renewable energies, recent trends have turned the relative attractiveness of various energy sources in favour of greater coal consumption. Europe is thus releasing more greenhouse gases into the atmosphere than before, while North America is releasing less. In Asia, gas demand has increased notably as a result of the reduction in nuclear power generation, albeit at a higher cost than in Europe.

Of course, the pattern of supply and demand is being affected by developments in other regions too. Gains in energy efficiency have contributed to relatively flat OECD energy demand, reinforcing the trend of demand displacement towards Asia. Meanwhile, the reach of offshore oil and gas production has spread and it now covers East Asia, the East Mediterranean, Western Australia, the Caspian Sea and, should the technology and economics improve, the Arctic. This means the supply base is more diverse, even though the Middle East and the Former Soviet Republics remain among the large production centres.

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In Latin America some significant shifts in the composition of production and consumption have taken hold, and the trend towards greater reliance on natural gas and renewables is increasing. Moreover, the potential for unconventional oil and gas is strong and may be tapped should the policy environment enable greater investment. And in Africa, besides sharing in some of the aforementioned trends, most notably the greater participation in global oil and gas trade, addressing energy poverty remains high on the list of priorities, just as in major parts of Latin America and South Asia. A key objective for most regions is to meet the goal of providing sustainable energy for all. Modern energy services are an important enabler



of economic development. Other issues interact with the preceding ones to determine how the geography of energy relates to the actual workings of markets. Open, safe, and predictable cross-border transit routes are fundamental for the promotion of national and international energy security, constructive interstate relations, and economic growth. Not only should well-known geographical choke points, pipelines and transmission lines be safe from potential physical disruptions or cyber attacks, but a stable set of credible rules and cooperative interstate relations are required to enable the free and uninterrupted flow of energy from one region to another.

The process of price formation is also key and requires a supporting framework to ensure it reveals the true opportunity cost of energy. Much oil is priced nowadays through impersonal electronic exchanges of a com-

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plexity that challenges the understanding of market participants and observers alike. Environmental protection is always a concern when it comes to the energy industry. Most analyses suggest that the world is not moving fast enough towards reducing emissions of greenhouse gases and that the energy industry can make a significant difference in this regard. The programme of the 14th IEF Ministerial has been designed with these developments in mind. It is structured to motivate and facilitate ministerial conversations around them, to raise awareness about their relevance, and to better inform the process of policymaking.

In session 1 we ask what exactly is the nature of this new energy geography? How is it affecting the prospects for supply and demand in consuming, producing and transit States? What national policy adjustments are under way to adapt to this new reality? How will it affect energy security? The answer to questions like these will undoubtedly affect how national energy strategies are crafted and how international energy co-operation is pursued.

Session 2 is a deeper dive into the discussion on the risks, potential and prospects for unconventional oil and gas production. If, as it is commonly said, it is a game changer for the industry and if, as it is also said, it will be confined to North America for many years to come, how likely is it to be sustained? How fast might it spread to the rest of the world? How serious and manageable are its environmental implications? These are questions being asked in nearly every corner of the world and that merit close attention to guide policy in the right direction.

Session 3 shifts gears in order to think about the conditions necessary for a transition to a low-carbon economy. Questions about the pace of innovation and the economics of cleaner sources of energy are more relevant now than ever. If the energy industry is responding to climate change at different rates in different regions, how likely is a transition to a low-carbon economy?

Are breakthroughs in available technologies within reach for a cleaner use of energies or is this simply wishful thinking? In short, is a low-carbon economy a possibility within reach in a relatively short time, or is it still within the realm of science fiction?

Session 4 brings all these subjects together and asks how international energy governance should work in order to make the best of the opportunities and mitigate the risks associated with the new geography and future energy security. What role should energy organisation play? How should they interact with each other? Is the type of cooperation they facilitate enough or should their agendas be expanded? And how can the IEF serve better the needs of its members?

This 14th IEF Ministerial is a special milestone for market data transparency, as the setting where the partners of the Joint Organisations Data Initiative will publicly launch JODI-Gas, and its new database that will provide information on gas market fundamentals. This is an important addition to the global pool of energy data at a time when gas markets are expected to expand. JODI-Gas and JODI-Oil are concrete outcomes of the producer-consumer dialogue and represent a notable contribution to market data transparency and stability.

I am confident this Ministerial will serve to discuss the key issues in the global energy conversation. While not all issues can be covered during a day and a half of conversations, I trust that the spirit of open and frank dialogue characteristic of IEF Ministerials will guide discussions in a constructive way, whether there is agreement or disagreement, and whether the issues under consideration are simple or difficult.

Welcome to the 14th IEF Ministerial.

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